

Applied Science Dept

THE *Country* GUIDE

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UNIVERSITY OF ALBERTA

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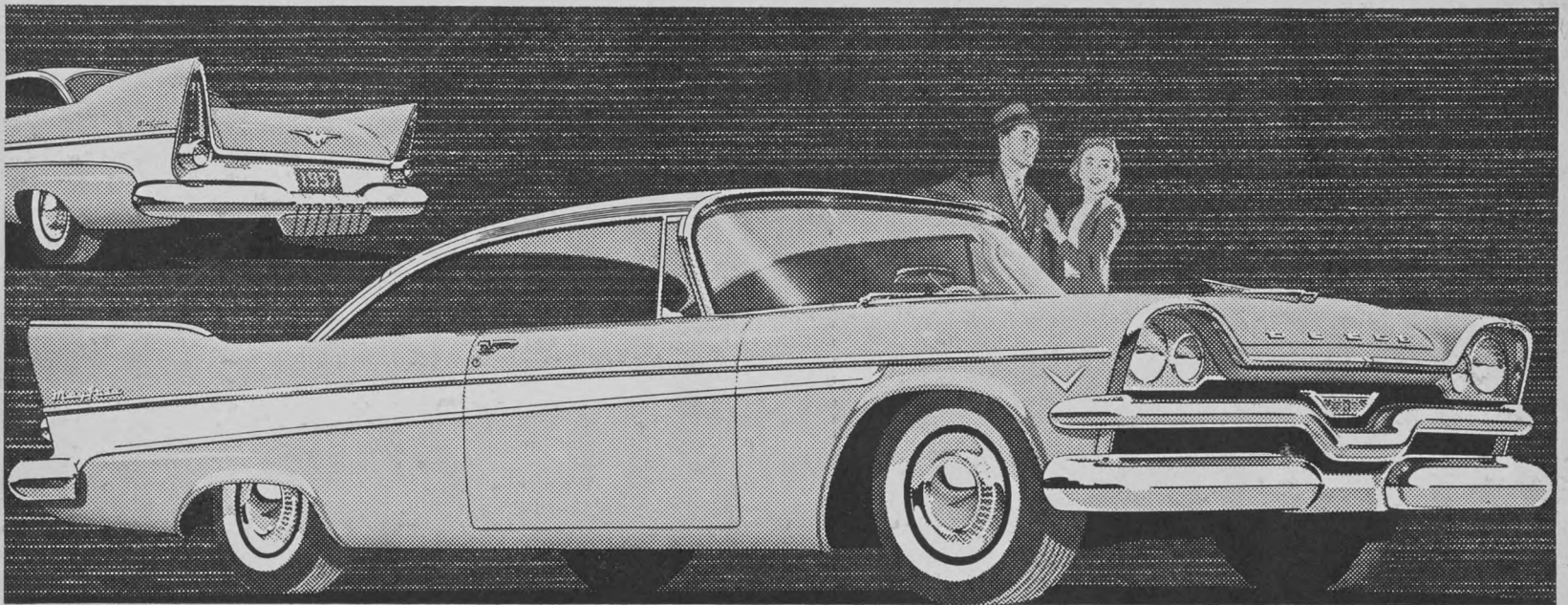
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DECEMBER, 1956

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Dodge announces completely new cars for '57

*with totally new looks...new higher horsepower...new brake power
and unbelievably smooth, new TORSION-AIRE RIDE!*



Get set for surprises when first you see the sleek, powerful '57 Dodge. For, this completely new car is loaded with sparkling, ingenious new ideas. Its entire suspension system is new . . . its low, snug-to-the-road centre of gravity is new . . . its Flight-Sweep '57 styling is new . . . its power, performance, safety, comfort, visibility, and marvellous stabilized ride are all new!

In fact, the whole beautiful family of five great cars bearing the Dodge name could be summed up as one immense and totally new development in automotive design! And you'll discover that this year, more than ever, Dodge is the big "buy-word" in Canada! See the '57 Dodge. Drive it. Price it. You'll want one!

MANUFACTURED IN CANADA BY
CHRYSLER CORPORATION OF CANADA, LIMITED

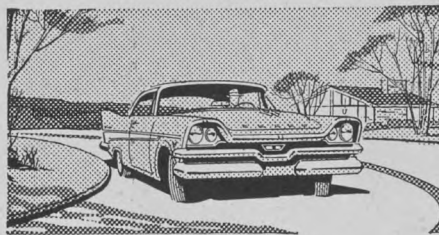
- New '57 styling is lower, racier!
- New Hy-Fire V-8 engine packs more power!
- New Total-Contact brakes stop you shorter

- Proved-in-use push-button driving!



Now proved by millions of miles of driving, this most modern way to drive lets you press a button . . . step on the gas . . . and GO! No fussing with an out-moded selector lever. Simple. Convenient. Trouble-free.

New Dodge Torsion-Aire Ride gives revolutionary new control, remarkable new comfort

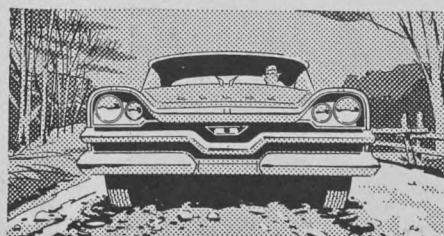
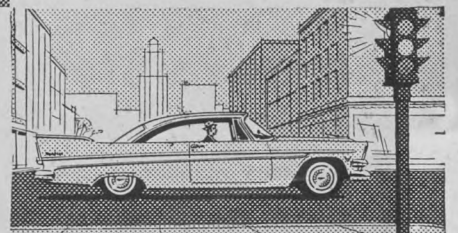


1. Levels out sideways . . .

on corners or curves! Dodge with Torsion-Aire Ride has a new, lower centre of gravity, new torsion-bar front springs that let you take corners with amazing control!

2. Stops annoying "nose-dive!"

When you press the brake pedal DOWN, Dodge keeps its nose UP—level with the road. New anti-brake-dive mountings help Dodge eliminate dip and pitch in stop-and-go driving.



3. Smooths and flattens bumps.

Dodge Torsion-Aire Ride with its rubber-insulated suspension, advanced spring design and famous Oriflow shock absorbers literally "silks" your ride. Try Torsion-Aire Ride yourself and see!

You're always a step ahead in cars of the Forward Look





[Malak photo]

THE *Country* GUIDE

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COVER: The little girl gazing in wonder at the Christmas tree reminds us that we in Canada have good reason to be thankful at this season. We are indebted to Eva Luoma for this reminder of the peace and happiness we enjoy.

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Look at **NEW IDEA** Loaders before you buy



New NEW IDEA "500" loader line is easy on-and-off, has simple mounting brackets. Breakaway lift capacity is over 2000 pounds.

Brand new "500" Loader line TORTURE TESTED

NEW IDEA engineering, with latest design and severe torture testing, has made possible the finest quality ever in this rugged new loader.

Fits many tractors. One frame fits both row crop and adjustable front axle models. You just need the right mounting package for your tractor. Breakaway lift capacity of more than a ton makes this an ideal unit for handling packed manure.

One man puts on and off easily. Once brackets are positioned, and with the parking stand, one man can mount the loader in 15 minutes. Can be mounted without changing rear wheel spacing; there's less "plumbing" because with double-acting cylinders a supply tank is not necessary.

Torture proved design. Every detail of the new loader has been proved on NEW IDEA's torture test track. Rugged main frame has continuous automatic seam weld. Single-acting cylinders specially designed for the A-C WD-45. There is very little bucket overhang due to the high pivot point.

SEE the new No. 500 NEW IDEA loader at your NEW IDEA dealer's today. And remember—there is also a full line of NEW IDEA-Horn loaders with 10 attachments. Write for complete facts in new loader folder.

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Clip this coupon and mail it today.

NEW IDEA FARM EQUIPMENT CO., DIVISION *AVCO* DISTRIBUTING CORP.

Coldwater, Ohio, U. S. A.

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☐ NEW IDEA-Horn Loaders

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Address _____

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Sutherland Ave. at King
Winnipeg, Manitoba

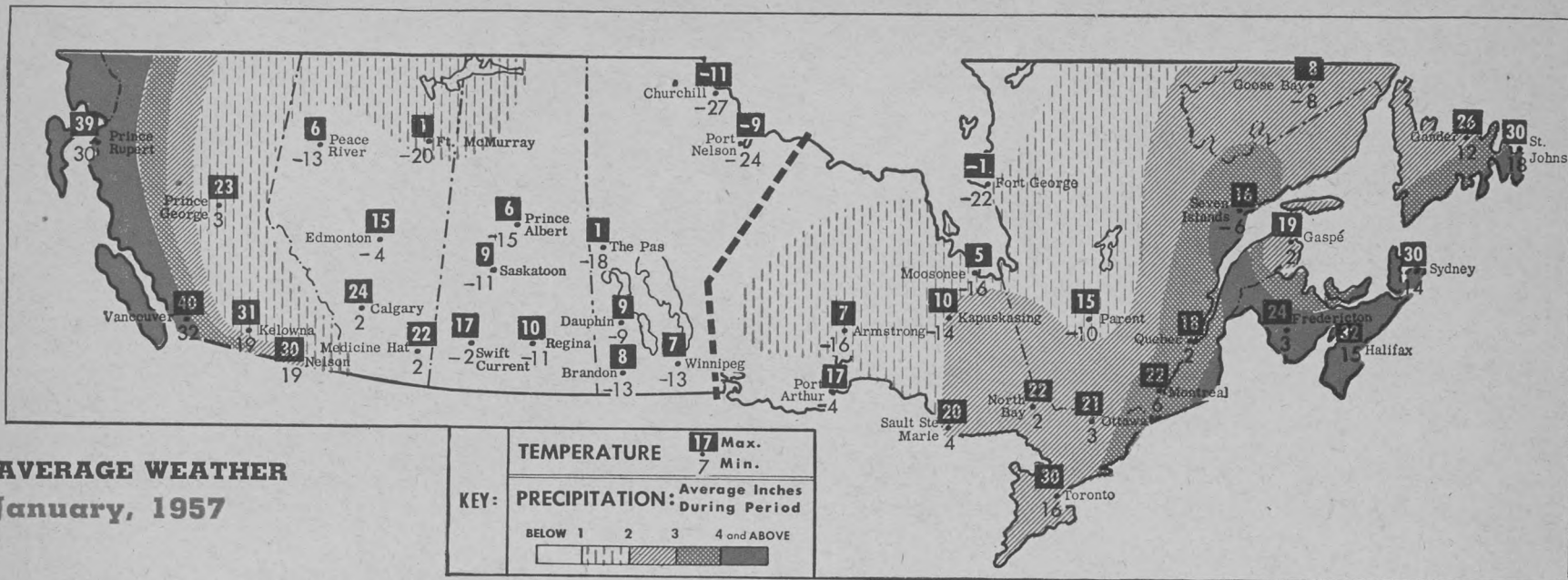
SASKATCHEWAN:

Grain Belt Farm Equip. Ltd.
1348 Halifax St.
Regina, Sask.

ALBERTA and B.C.:

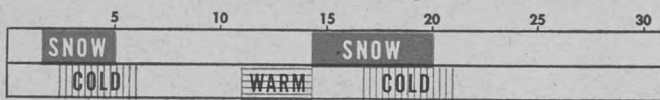
Northwest Farm Equip. Ltd.
Cor. 7th Ave. and 6th St. E.
Calgary, Alberta

Weather Forecast

Prepared by
DR. IRVING P. KRICK
and Associates(Allow a day or two either way in using this forecast.
It should be 75 per cent right for your area, but
not necessarily for your farm.—ed.)**Alberta**

January will be remarkably mild, bearing little in common with January, 1956. Only two major cold outbreaks are anticipated, neither of which will bring anything spectacular in the way of low temperatures. The first Polar onslaught is expected about the 3rd or 4th, the second shortly after the 15th. Intervening periods should be conspicuously spotted with above-normal temperatures, the warmest of which are likely between the 10th and 15th.

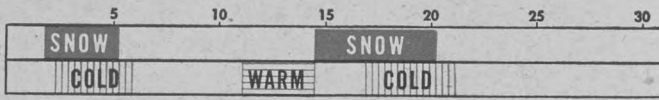
Snowfall will approximate normal in the Peace River country. Less generous amounts are in prospect elsewhere in the province. Indeed, deficiencies will be common through the principal grain belt. When coupled with occasionally mild weather, snow cover should diminish at times to negligible amounts in the south, opening ranges for livestock. The bulk of the month's precipitation is likely during the initial five or six days and between the 14th and 20th.

PRECIPITATION
JAN.
TEMPERATURE**Saskatchewan**

Snow and cold is in prospect toward December 25, with another outbreak of Arctic cold during the first week of January. It will be the last outbreak of consequence for quite a spell, as temperatures moderate to levels uncommon for the time of year. Maximum temperatures in the 30's should be experienced with greater than ordinary frequency. Cold weather will return as Polar air again pervades the province between the 16th and

20th. The cold snap should be conspicuously brief and free of remarkably low temperatures.

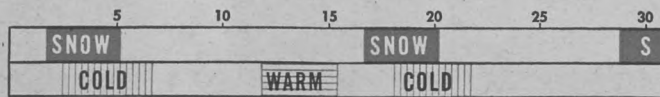
Precipitation deficiencies will be common in all but the southeastern districts, and snow depth should barely hold its own through the month. Indeed, the occasional lack of snow on ranges in the southwest should allow livestock access to winter pastures, and make their care of little trouble. Transportation should be rarely impeded in the province.

PRECIPITATION
JAN.
TEMPERATURE**Manitoba**

After some timely snow and cold for the Christmas season, January will provide an abundance of contrasts . . . brief cold snaps spliced together by relatively long intervals of unseasonably mild temperatures. For the month as a whole, temperatures are expected to appreciably exceed normal. Coldest weather is anticipated with Polar outbreaks toward the 4th and between the 15th and 20th. Highest temperatures, reaching into the

30's, should be experienced between the 10th and 15th.

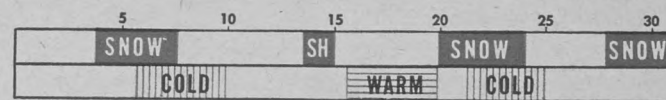
Snowfall will closely approximate seasonal averages with a tendency toward above normal amounts. The most productive storms are anticipated during the first five or six days, again toward the 20th. Additional, although probably less effective, precipitation is expected toward the end of the month. In spite of occasional periods of relative warmth, snow cover should remain substantial.

PRECIPITATION
JAN.
TEMPERATURE**Ontario**

Meek weather is anticipated in January. There will be some cold of course, but Polar outbreaks will be few. The first invasion from the Arctic, and probably the most pronounced cold spell, should occur about the 6th. Temperatures are expected to moderate appreciably during the middle ten days, climaxed by unseasonable mildness toward the 20th, when much of southern Ontario should experience temperatures press-

ing 50 degrees. Colder weather will return to the province about the 22nd, with the month terminating in a more seasonal vein.

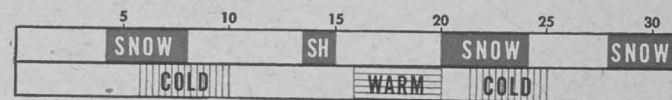
Quite generous precipitation, for January, is expected in the north-western districts. Small deficiencies should be common in eastern and southern Ontario. The most productive storms are anticipated around the 5th, 22nd and during the closing days of the month. Spotty and less generous showers are likely about the 15th.

PRECIPITATION
JAN.
TEMPERATURE**Quebec**

January will provide nothing in the way of the unusual. Indeed, neither temperatures nor precipitation will depart appreciably from normal. A tendency toward above-normal temperatures can be expected in western districts, with small deficiencies more common in the east. Only two pronounced cold periods are anticipated . . . first, between the 5th and 10th, with lower temperatures again between the 21st and 26th. Relatively

mild weather will be conspicuous during the middle decade, with a bit of unseasonal warmth toward the 20th taking heavy toll of the snow cover.

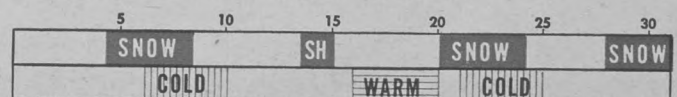
Snowfall will not be quite so generous as ordinarily experienced in January. Considering occasional thawing temperatures, snow depth could leave something to be desired by ski enthusiasts. The principal storms are expected to develop around the 5th, between the 20th and 25th, and at month's end.

PRECIPITATION
JAN.
TEMPERATURE**Maritime Provinces**

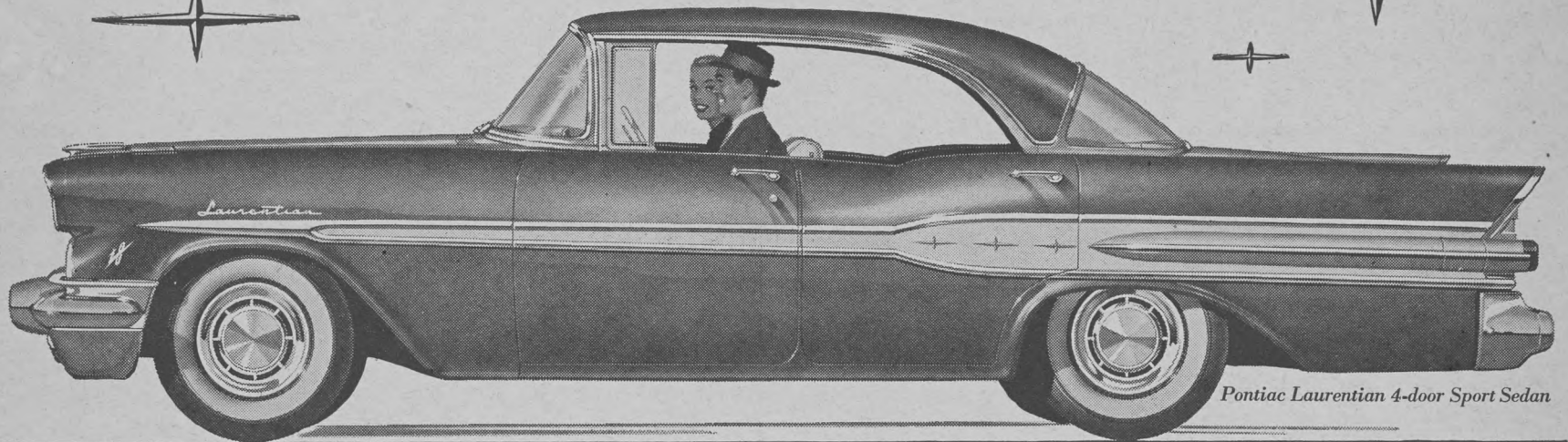
Considerable storminess and rather cold weather are in prospect for the last six or seven days of December. In January, there will be a tendency toward small deficiencies in both temperatures and precipitation. Lowest temperatures, and in no way out of the ordinary, are expected to accompany invading Polar air masses between the 5th and 10th and the 20th and 25th. Temperatures can be expected to moderate toward mid-

month, actually pushing above normal between the 15th and 20th.

Storms are expected with typical regularity, hardly more than two or three days in succession passing without measurable precipitation. In spite of frequent storminess, generous amounts of rain or snow are not anticipated. Rather, small deficiencies will be virtually the rule in New Brunswick, Nova Scotia and Prince Edward Island, except farther north, and especially in Labrador.

PRECIPITATION
JAN.
TEMPERATURE

Surprise Package OF '57 ...Pontiac!



Pontiac Laurentian 4-door Sport Sedan

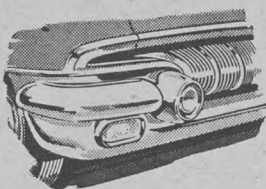


It's the biggest surprise of any year . . . 1957's bright, brand-new Pontiac! One glance at these slim, trim sidelines will convince you that this is the ultimate in newness! Because Pontiac for 1957 is *completely* new—from power to personality . . . completely *yours*—from prizing to possessing! Completely new in power, did we say? Well, yes . . . with a brand-new choice of engines, ranging from the economical Strato-Six with 148 horsepower, right up to the 283 horsepower Power Chief Fuel Injection V8 engine*! Completely new in personality, too? Surely, with Pontiac's new Star Flight Body Design . . . the only new car in the lowest-priced field with such supreme quality and style. And inside, Pontiac's new interiors, new colors, new fabrics, new *everything* create a classic combination of luxury and beauty! And Pontiac is completely new all the way in between, too—with striking new "firsts" for 1957. Triple-turbine Turboglide*, for one example. And revolutionary Fuel Injection*, for another, eliminating carburetors completely!

But get the full story first hand. It's on display—*now*—at your Pontiac dealer's!



*Optional at extra cost.



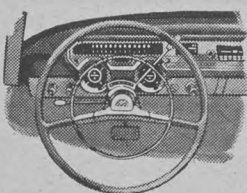
Here's Pontiac's exciting new front end for 1957 . . . with new boldness in every line.

There's the added safety of constant-speed electric windshield wipers . . . offered as an accessory on all models.



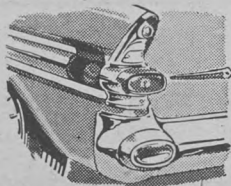
The newness of Pontiac styling extends to these boldly-designed tail-lamp units as well.

All Pontiac models for 1957 have new deep-dish steering wheels . . . practical Pontiac styling.



Instruments, steering wheel and controls blend in uncluttered convenience in Pontiac's new instrument panel.

Pontiac's new fuel filler door hides behind a glamorous exterior . . . readily accessible when needed.



A new three-position switch lets you operate accessories with engine and ignition turned off.

A "first" on Pontiac for 1957, Fuel Injection* is the newest of new engine advancements in production cars.



A GENERAL MOTORS VALUE

F57-P-1A

'57 PONTIAC . . . Completely new from *POWER* to *PERSONALITY*

FARM NOTES

Farmers
Over the Hump?

FARMERS have come through a period of readjustment which followed high post-war prices, but the worst is over in the agricultural depression. These optimistic words were spoken by Dr. E. C. Hope, the economist of the Canadian Federation of Agriculture, when he spoke to the British Columbia Federation of Agriculture recently.

For half a dozen years after the war, he said, increases in world population, decreases in production in the fighting areas and purchases of farm products under aid plans added up to a strong demand. The parity ratio rose to 113 in 1948, and averaged 109 between 1946 and 1951. Then agricultural production in overseas countries started to recover, and had reached its pre-war level by 1952. Export demand dwindled, Canadian farm production continued to increase, costs increased, and the prices of farm products slipped.

The parity ratio fell from 110 in 1951 to 84 in 1954, and remained at that level until last spring.

Dr. Hope said that an examination of other periods of declining prices for farm products shows that the declines have never lasted more than a maximum of five years. The present decline has lasted five years up to last spring, and it appears that it takes

about five years to make the necessary readjustments to a fundamental change in economic conditions. It now seems that the period of readjustment is over. The number of farms, the labor force in agriculture, and the probable volume of agricultural production over the next few years will likely be more in balance with our domestic demand and the new lower level of export demand. The over-all price level has ceased to fall and has been rising slowly since last spring.

All About
Saskatchewan Farming

SOMETIMES referred to as a "farmers' Bible," yet another edition of the "Guide to Farm Practice in Saskatchewan" will make its appearance next March. This remarkable book, which covers all forms of agriculture used in the province, had a circulation of 50,000 in 1954, when the last edition was published. Next year they will print 60,000 copies of the new edition, using nearly 20 tons of paper.

To consider recommendations to be made in this useful book, 200 agricultural experts from all over the province met at the University of Saskatchewan this month with the editorial committee, which includes W. H. Horner, provincial deputy minister of agriculture; Dr. V. E. Graham,

dean of the College of Agriculture at the university; D. G. Matthews, superintendent of the Scott Experimental Farm; and Professor R. D. Ramsay, director of extension at the university.

Believed to be unique as an all-inclusive farm book, the "Guide to Farm Practice" is financed jointly by the federal and provincial governments.

Untouched
By Hand—Almost

BEFORE World War II, it took 70 to 80 hours of hand-labor to produce an acre of sugar beets. In 1955, 24 hours of hand-labor for thinning and five hours for harvesting were needed, according to a survey among 112 producers in Manitoba conducted by the Department of Agricultural Economics, University of Manitoba.

Mechanization has obviously reduced the need for hand-labor in the past 15 years, with 75 per cent of the beets mechanically harvested and 20 per cent mechanically thinned now. This has raised the new problem of overhead investment, which averaged \$22 per acre for specialized sugar beet equipment, and a total investment in all machinery of \$36 per acre, among the 112 producers.

Sugar beet production costs more per acre than other crops do, and the gross returns need to be correspondingly higher. It was found that the costs varied from \$19 with a yield of four or five tons an acre, to \$7 per ton when yields were 11 to 12 tons

an acre. If beets sold for \$12 a ton, it would require seven to eight tons per acre to cover all costs.

Production costs are affected by rainfall, insect damage, plant disease, preparation of land, efficiency of labor use, capital investment per acre, and other problems of management. But the most important factor of all is the yield per acre.

Farm mechanization has reached into every branch of farming, and it is fair to assume that what has happened to beet production applies in varying degrees to grain, livestock and horticulture. Machines are not only a way to save hand-labor, but to increase productivity, improve quality and provide a better return to the farmer.

Bigger Farms
Needed in P.E.I.

ALTHOUGH 87 per cent of dairy herds in Prince Edward Island have less than eight milk cows, farm business studies have shown that a unit of this size is not economical for the use of milking machines and other modern equipment.

The Charlottetown Experimental Station advises farmers to increase the size of their units—developing ones large enough to support a two-man enterprise. Such a system, they point out, provides for sickness, holidays and other necessary absences from the farm. In addition, the larger unit makes much more efficient use of machinery such as tractors, binders, and manure spreaders.

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STRAW and CHAFF
BALER

FIELD TESTED
AND PROVEN
UNDER WESTERN CONDITIONS
BY HUNDREDS OF CANADIAN FARMERS

Don't worry about winter feed for your livestock! Attach a WELGER BALER to your combine and have handy bales of feed from STRAW . . . CHAFF . . . LIGHT GRAIN and WEEDS usually spread in the fields. Economical . . . modern . . . easily attached to your combine, a new WELGER BALER will pay for itself in a short time.

REMEMBER — YOU ALWAYS WIN — NEVER LOSE — WITH A WELGER STRAW AND CHAFF BALER

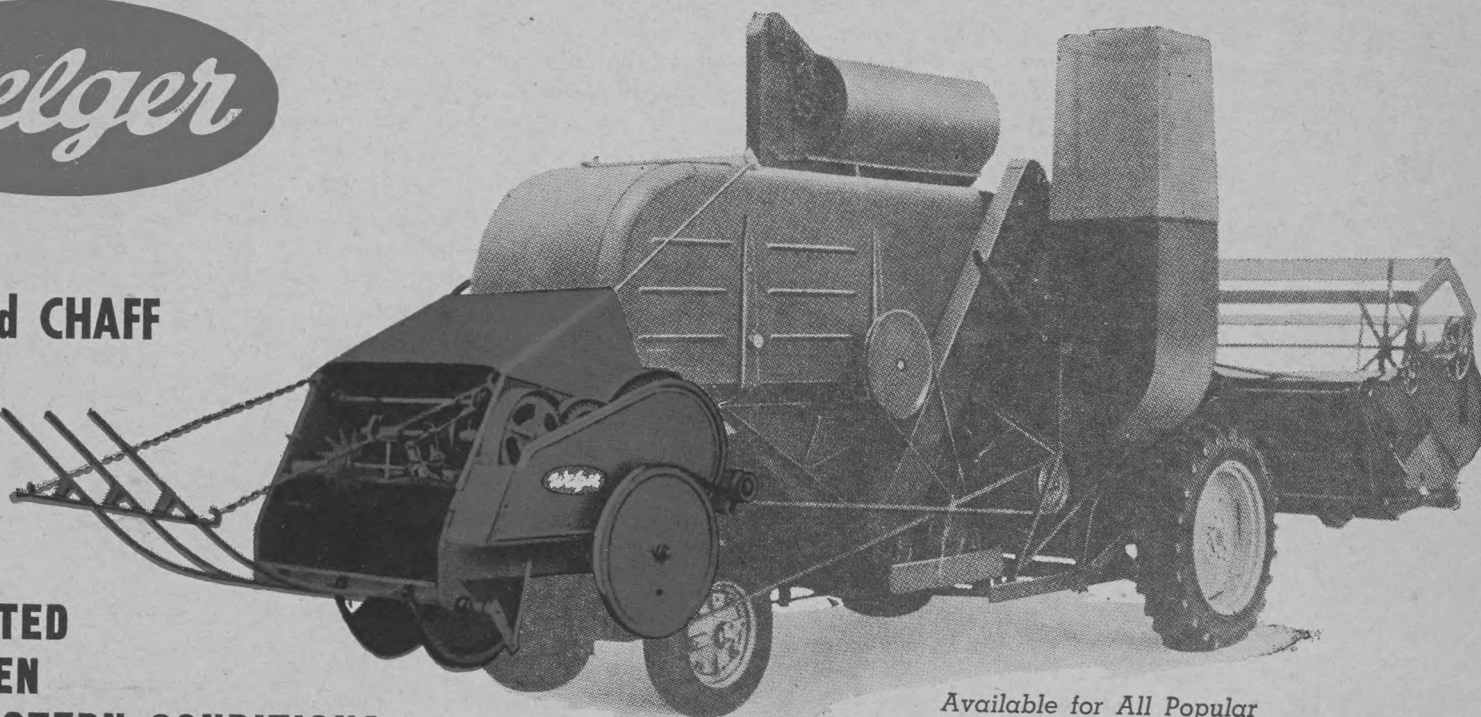
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The Value Is High

A BALE CARRIER which dumps the bales in lots of 6 or 8, in windrows, is now available. It will save you up to 90% of the labor costs of picking up the bales.

Spare parts and service for the WELGER BALER is quick and efficient through a conveniently located dealer organization throughout Western Canada.

Royal Agricultural Winter Fair Winners



These Ayrshires, shown by Richards Bros. of Red Deer, Alberta, included the junior champion and reserve bulls, and the senior and grand champion bull.



Winners in the Queen's Guineas breed classes, all from Ontario (l. to r.): B. McQuillen, R. McLean, Don Pullen (first), with judge, Charles Yule.

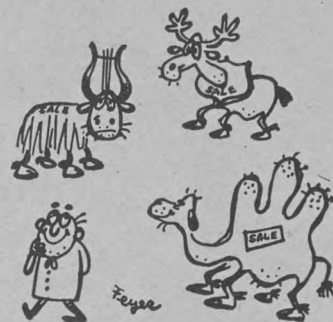


The grand champion steer at the Fair was this Aberdeen-Angus, shown here with the successful exhibitor, Alex Edwards of Ontario, and Mrs. Edwards.



William Deurloo of Granum, Alta. (l.) receiving the world wheat championship awards from Norman MacMillan, C.N.R., and Carol Chapman of Saskatchewan.

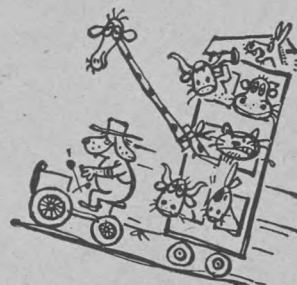
It's good to be able to shop around



Gasolines and other oil products are available at hundreds of outlets in Canada at varying prices and quality.



Scores of Canadian companies are engaged in the oil business, all competing for the consumer's dollar.



They compete with each other in bringing out more and better products each year, especially improved gasolines for today's more powerful engines.



They compete vigorously for your business, knowing that you will shop for the quality, price, and service you like.

Competition among oil companies ensures a wide variety of products and keeps prices low.



IMPERIAL OIL LIMITED



Alnico magnets help solve crimes by enabling police to locate weapons and other bits of hidden evidence.

Powerful magnets, made with INCO NICKEL, help solve crimes... even hold false teeth tighter!

USING NICKEL supplied by Inco, a Canadian manufacturer is producing an alloy called Alnico.

When magnetized, Alnico becomes a powerful magnet that retains its magnetic strength indefinitely.

Several million Alnico magnets are made in Canada every year. These are used by Canadian companies in the manufacture of hundreds of products such as motors and

generators, aeroplane instruments, telephones and children's toys, to name only a few.

Since every single one of these magnets contains Inco Nickel, it is easy to see how this Inco metal helps provide jobs in Canadian industry.



Write for a free copy of the illustrated booklet, "The Romance of Nickel."



Alnico magnets sometimes help save lives by making it easier for surgeons to recover small metal objects swallowed by children.

Alnico magnets are now being installed in upper and lower sets of dentures to hold false teeth securely in place.



Alnico magnets are used by Canadian companies in speakers on radio and television sets.



Alnico magnets installed on refrigerator and cupboard doors provide quiet, easy, secure closing.

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New Products For Farm Markets

The Prairie Regional Laboratory at Saskatoon is devising new processes which could find important sources of farm income

by RICHARD COBB

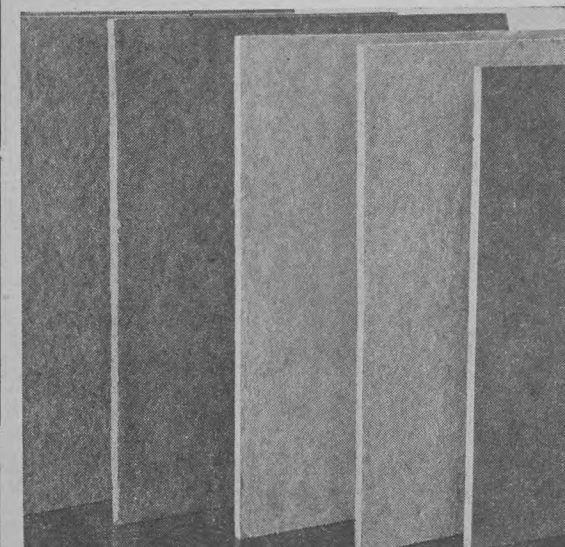
WHAT should be the aim of Canadian agriculture? If the answer is prosperity through better products and more markets for them, then the work of a group of scientists at Saskatoon should have a big influence on its future. The talk among these scientists is of erythritol, ustilagic acid, sucrose and isothiocyanate, but behind such words their work is strictly for the benefit of prairie farmers and their customers.

The Prairie Regional Laboratory, PRL as it is called, was set up by the National Research Council in 1948, under the direction of Dr. G. A. Ledingham. It is now the largest Canadian laboratory west of Toronto, with more than 80 employees. Its annual budget is \$500,000, or equal to the total annual cost of the National Research Council before 1939.

Research is not a quick route to newspaper headlines. It is a journey into the unknown, which may lead to nothing, or perhaps, after many patient years, to a discovery which might be of use to another researcher. But sometimes, the result is of immediate and obvious value. This happened recently, when Dr. Ledingham announced the development of a new process for making building board and hardboard from pulped straw. It was claimed that it was in many ways superior to wood boards. Shortly afterwards, plans were announced by a building materials company for a \$2 million plant, based on the pilot plant at the laboratory, to manufacture board from straw at an annual rate of 30 million square feet. It will go into production early next year.



C4 was made of pastry flour with gluten added, but loaf C2 was baked with unimproved pastry flour.



A collection of straw boards showing the effect of different chemicals and treatment of straw fibers.

At the back of this achievement lay six years of experiments at the PRL, and ahead lies the question of whether there is such a thing as surplus straw, or whether all of the crop residue should be used for soil conservation and fertility. Anticipating this, PRL pointed out some years ago that a large quantity of straw is burned on farms each year, and though useful for conservation, its value in increasing fertility is doubtful because it decreases the available phosphorus and nitrogen. They estimated, too, that a yield of 16 to 17 bushels of wheat per acre would also produce three-quarters of a ton of straw per acre. A processing plant, even in the poorest years, could expect at least 100,000 tons of wheat straw to be grown within a radius of 25 to 50 miles. It was considered that straw could compete equally with wood pulp as raw material for board, and might even be better.

THIS is a good example of how PRL works. Not only did the staff produce an efficient straw-board process, but provided information to show that it could become an economically sound and competitive industry. It is this practical approach which makes the laboratory cautious about the future of another product—gluten.

Gluten is the protein element in wheat. It is prepared sometimes as glutamic acid for use in soups, and there is a limited output in the U.S. for specialty breads. However, if there is a real future for it as an industry benefiting prairie farmers, it could have a strong impact on the grain trade as a supplement to inferior wheats grown in other countries.

Dr. Ledingham believes there are large quantities of wheat in the world that could be improved by adding Canadian gluten. The average gluten content of European flour is 9 or 10 per cent, compared with Canada's 12 to 14 per cent. Furthermore, he believes that within the next 25 years, more gluten will be used by bakers everywhere, to give them more flexibility and better quality.

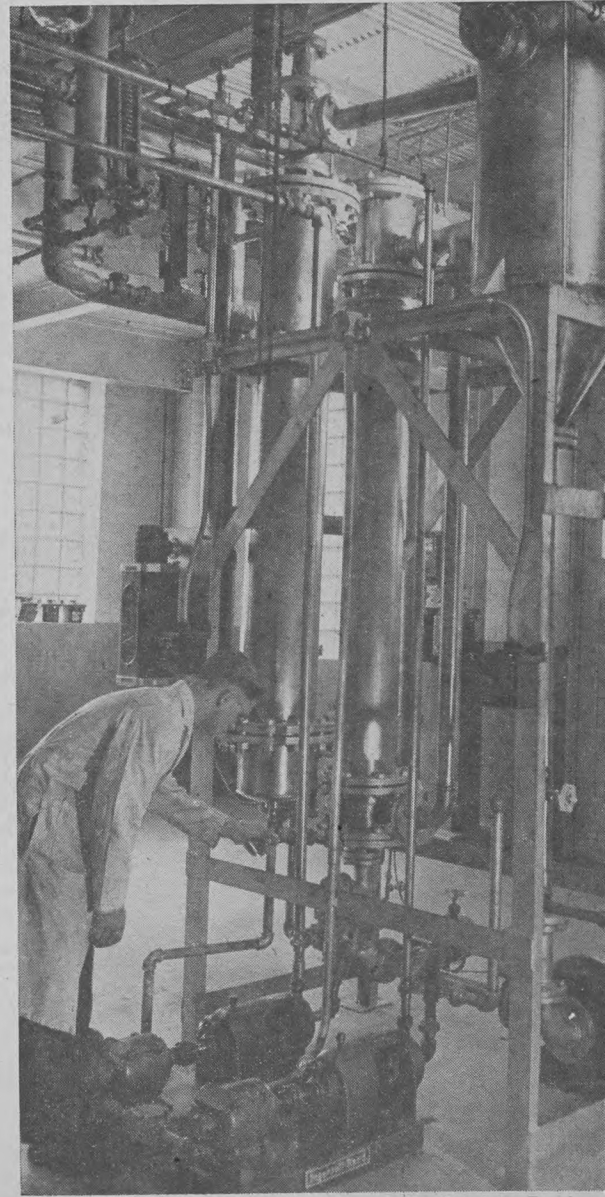
It seems that here is a partial answer to surplus wheat problems: a compact product which would supplement, rather than replace, the wheat that less fortunate countries encourage their farmers to produce. But price is the stumbling block. Gluten can be produced at PRL without loss of quality by freeze-drying and spray-drying processes. But the capital outlay for a gluten plant handling 2,000 bushels of wheat a day (the capacity of the average Canadian mill) would be \$1,200,000. Taking into account the expenditure on chemicals and labor, the cost of gluten would be 24 cents a pound. Britain pays a premium for Canadian wheat equivalent to 20.6 cents a pound for protein, so there would be no advantage in importing gluten there. Other countries, however, with a large wheat production, but low protein content, might find it profitable to import the gluten.

There is another problem. When gluten is extracted from wheat, starch is left, and the disposal of this would have an important effect on the price of gluten. Wheat starch is the equal of corn starch for any purpose, and PRL is interested particularly in persuading the paper industry to use it instead of corn starch. But corn starch, although most of it is imported, is cheaper.



Dr. G. A. Ledingham, who has served as the director of the Prairie Regional Laboratory since it was opened in 1948.

ANOTHER line of inquiry is into the uses of vegetable oils as food and in industry. These oils were in demand during the war owing to shortages of other materials, one example being the use of rapeseed oil for marine engines. Then the market declined in the post-war years, and little progress was made, but the picture is changing. Rapeseed is becoming a major crop on the prairies, flax is important too, and soybeans and sunflowers are better adapted now to prairie conditions. To some extent these crops will reduce imports of vegetable oils, but new uses for them in paints, vegetable fats, animal feeds, and a multitude of other products are a growing need. PRL has seized on this with enthusiasm, and particularly a new production trend, which is to break up the oils and use selected portions for different purposes: in fact, to tailor the oil to (Please turn to page 49)



Stainless steel equipment in use at the Prairie Regional Laboratory, Saskatoon, for testing out new fermentation.

Tractors Brought a SOIL PROBLEM

Larger fields increased soil erosion and necessitated contouring and a new cropping plan

by DON BARON

DRIVING north from old Highway No. 2, east of Toronto, the level lakeshore gives way to rolling land. By the time you reach the town of Claremont the rolls have become sizable hills, and if you continue northwest to the Earle Parrott farm at Ashburn, it's as good as a roller coaster ride. Half a mile beyond the Parrott place, the rugged knolls have made farming virtually impossible, and the sandy hills have been taken over now for the Uxbridge tree planting program. But the Earle Parrott farm, strangely enough, despite its steep hillsides, is unusually productive.

The farm buildings are set on a high roll of land with a magnificent view to the east. For miles the churning topography drifts off to a further rise visible in the distance. But that view is one of the rewards of farm living: erosion is the corresponding problem.

Earle Parrott has been on the farm since he was ten years old, and in the early days of horses and small fields, erosion never seemed to be a problem.

Later, tractors became necessary to meet the quickening pace of competition. To make them practical, fences were torn out and fields became bigger: a new style of farming was opening up. With it, came new problems.

Before long, erosion gullies began to cut up the steep hillsides. Good soil was carried away from hilltops, and the topsoil became thinner. It was then that Earle Parrott began to realize what was happening. The small fields of old had helped to prevent erosion. The fencerows caught up any washing soil. Now, the tractor age had pushed these useful barriers away and provided no substitutes for them.

That was when he began to think of contours for the land. He laid out one contour, but the violently hilly land almost defied him to go further. There seemed no logical place to continue.

But go on he must. He had seen corn, standing over a foot high, buried with silt after a summer downpour. He could see gullies two feet deep,

gouged out of the low waterways on the farm.

Then he heard that Tom Lane was in the district. He invited the O.A.C. soils specialist to his farm to discuss his problems. Professor Lane surveyed the entire farm, and laid out the contours required. Then he discussed the kind of crops that Mr. Parrott wanted to grow, laid out complete plans for crop rotations and turned back to Mr. Parrott a long-term plan for the entire 65 acres.

WITH the new program, a twisting set of contours faced the farmer. Corn, which left his land more vulnerable to washing than any of his other crops, had virtually been abandoned. Grassed waterways were laid out in problem water runs. Much of the land was in a four-year rotation, with two years of red clover and alfalfa, brome or timothy, then a year of winter wheat, and a crop of spring grain seeded back to hay. On these 65 acres, plus an abundance of rough land for grazing, Mr. Parrott

would be milking his 15-cow Holstein herd and shipping the milk to Toronto.

He is more than pleased with the results. Many of his knolls had already been reduced to thin layers of topsoil, before he got erosion stopped. But the fertile soil made up of loams, sand and clay, was too productive to permit him to abandon the farm. Even now, he crops those knolls in the rotation, and remarks on how little topsoil is required to produce good crops, so long as erosion control is practised. During rainstorms he has watched the water pick up silt in the bare or grain-covered soil, and flow in tiny rivulets, down the hill. When they reach the strip of grass, they are, if not completely soaked up, at least cleaned of the silt. Whatever water trickles from the grass strip to the next crop strip, is clear and free of silt.

Mr. Parrott now has rotations, and his erosion problem is beaten. The farm is producing well, which is just what he wanted, to solve the problems that came with tractor farming. **V**



Earle Parrott discusses land use plan with Tom Lane, soils specialist at Ontario Agricultural College. Note the strip cropping. [O.A.C., Guelph, photo]

Range-Reared Pullets Lay Well

This Nova Scotia poultryman uses cross-bred pullets and markets his own eggs

IN 1942, newly graduated from the Nova Scotia Agricultural College, at Truro, Bob Oulton tried 400 hens on his dad's farm at Three Mile Plains. They paid off so handsomely that the same year he bought the long-abandoned textile mill at nearby St. Croix, turned it into a laying house, and has been counting hens by the thousands ever since.

He has built an extension to the old mill now, houses 7,000 layers at capacity, brings on three separate flocks of pullets each year, and grades, boxes, and hauls his own eggs to Halifax, directly to retail stores.

The enterprise keeps three men and himself busy the year round, but in a district where apples have been something less than big money crops recently, they have given him good returns.

This young poultryman with the easy way about him, has been raising a Rhode Island Red-Light Sussex cross-bred lately, from the Ells poultry farm. Raised on range, they have given him good results, but raised indoors they haven't proved persistent enough in the laying pens.

Consequently, he tries to raise 4,000 or 5,000 pullets in two summer range flocks that are fed only oats there. These, coming to lay at five and a half to six months, will lay for a full year.

He has taken advantage of every natural asset, from the old textile mill, to the ready water supply provided by the river alongside. Across the river is a hydro plant, with a ready supply of water at a level above the poultry house. He has tapped that



The Oulton team cleans, candles and grades eggs for delivery to the stores. [Guide photo]

supply, runs fresh water through an open trough in each pen, winter and summer alike.

He has stayed with individual nests, and likes roosts above the dropping boards, which are off the

floor. These boards are cleaned off only twice a year.

Like many poultrymen these days, he takes advantage of the good cross-bred layers, which leave him with less need to cull. He has found that most birds will lay sufficient eggs to pay their keep, as long as they stay healthy.

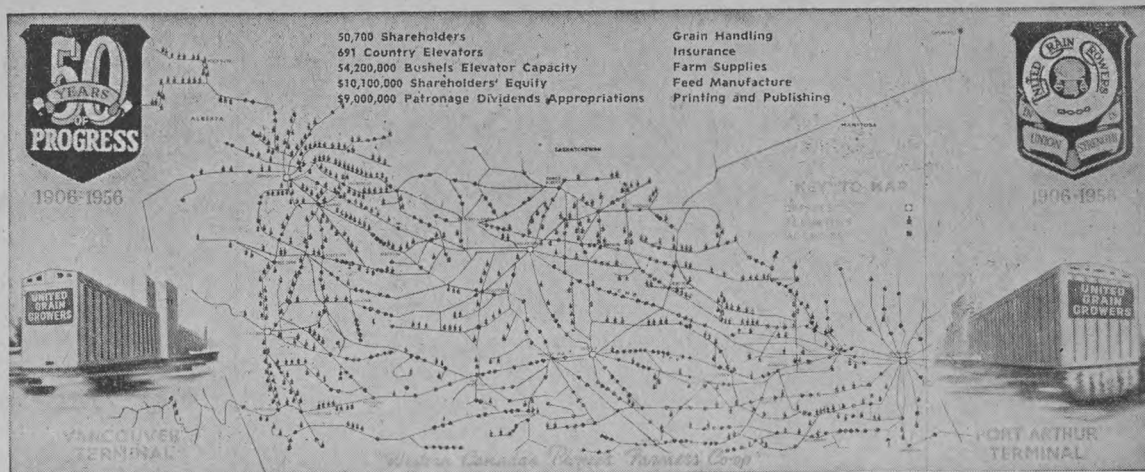
Since he is building up his own trade with his customers, quality is important. No water is used in washing the eggs. Dirty eggs are dry-cleaned by hand, as well as candled and graded in his own egg room in the poultry building.

And not being one to miss a cent of the money that is in this low-margin, high-volume crop, he has the hens custom-killed when they get to the end of their lay. Then he trucks them to jobbers or packers himself.

After 14 years, Bob Oulton can truthfully say that poultry have been good to him. His low-cost set-up has paid him well. Undoubtedly, one reason is because he has been good to his birds. **V**

How Farmers Made History

Here is a significant commentary on Canadian progress during the past half-century, particularly with reference to western Canadian agriculture and what is called the farmers' movement. It is a condensation of an address delivered at the annual dinner of United Grain Growers Limited on November 7, at Calgary, during the 50th Annual Meeting of this pioneer prairie co-operative grain-marketing organization. Speaker was Professor Donald G. Creighton, chairman, Department of History, at the University of Toronto, one of the ablest historians writing in English



This map shows the extent of the United Grain Growers operations, which began with the Grain Growers' Grain Company, later amalgamated with the Alberta Farmers' Co-operative Elevator Company in 1917.

THIS year, your Company, United Grain Growers Limited, is fifty years old. Only a very few organizations in the Canadian West can claim an earlier beginning, or a longer life than yours. The Territorial Grain Growers' Association, the grandfather of them all, was founded only five years before. The provinces of Saskatchewan and Alberta were only a year old, politically, when your Company commenced operations. You are as old as the organized West. With the West you have endured, suffered, prospered and achieved.

Fifty years old! A half-century of experience! Your Company, and the Canadian West, and Canada as a whole, have travelled a long way in those five momentous decades.

By 1916, the Grain Growers' Grain Company was ten years old. It had certainly been an eventful decade. What actually happened was far from being sober and academic: it was, on the contrary, turbulent and intensely vital. It had all the qualities—a good plot, vigorous characters, swift action, and continuous suspense, which go to make up an enthralling story. As a newspaper man, or a magazine editor, would say, it has everything.

The story had its beginning when that very determined and far-seeing group of men, the grain growers about Sintaluta, in Saskatchewan, decided to send E. A. Partridge to Winnipeg, on a mission of investigation. Partridge himself was the very kind of man who throughout history has inspired actions, begun movements, started crusades. He went as a scout to find out what he could about the methods of the organized grain trade of that day. He stayed a month in Winnipeg, and was as thorough as Sherlock Holmes. He identified, to his own satisfaction, the guilty parties in the exploitation of the farmers; and he concluded that farmers could escape from their toils only by forming a co-operative grain company of their own.

That company was, of course, your Company, originally named the Grain Growers' Grain Company. In September, 1906, it opened its own little two-roomed premises on the top floor of an office building; and its history, for the next year, was an uninterrupted course of perils and excitement. Within six weeks of the commencement of operations it was abruptly expelled from all trading privileges in the Winnipeg Grain Exchange. The next few weeks, with consigned cars of grain piling up, and a rapidly growing bank overdraft, were hectic enough to break the morale of any inexperienced group of directors. They pledged their personal credit without limit, and struggled to sell grain. There was a court trial, its proceedings watched grimly and tensely by the entire western farming community. The Grain Growers' Associations intervened; the Government of Manitoba intervened,—and very forcefully, in the end. The decision of the Grain Exchange was reversed and the Grain Growers' Grain Company given trading privileges once more.

DESPITE the trials and tribulations still ahead for the infant company, the second year's operations were not as bad as the first. Above all, it acquired a new president, the thoughtful and determined young farmer-school teacher from Russell, Manitoba, Thomas Alexander Crerar. There was probably, in the whole of Canada, no more astonished young man than he on the night of July 16, 1907, when he suddenly found himself elected, not merely a director, but also President of the Company.

How surely and solidly the Company prospered under his leadership! The leasing of the Manitoba Government elevators, the acquiring of terminal facilities at the head of the lakes, the union with the Alberta Farmers' Co-operative Elevator Company, all took place virtually within the first ten years of operations. By 1917, your Company stood forth with its new name, United Grain Growers Limited. Perhaps the distinguishing feature of its long history has been the steadiness with which it has preserved its own identity and maintained its healthy rate of growth.

The farmers' movement, of which the United Grain Growers was only one manifestation, was a movement

bursting with vitality and creative power. It had many expressions, political, economic and social. It took on many forms—political parties, governments, co-operative movements, group associations and commercial companies. Its terrific energies overflowed in a dozen different directions. The one constant, unchangeable fact in all this changing history, is the permanent power and importance of the farmers' movement in Canada. Your Company, the United Grain Growers, symbolizes that power and importance. It can represent the strength of the West in Canadian national affairs, and the strength of the Canadian nation in world politics.

IT was not until about the time your Company was born that the miracle for which all Canadians had hoped, for two generations, at last came true. Sir John Macdonald's design of a great, unified transcontinental nation, linked by railways and strengthened by industry, had the occupation of the West as its first condition. The Old Man, as far as he could see into the future, had done his best for western Canada, but the great depression of the last quarter of the nineteenth century had been too much for him. And it was not until the last years of the century that the warm, encouraging winds of prosperity began

(Please turn to page 46)



Original shareholders attending the 50th annual meeting of United Grain Growers Limited in Calgary last month were (l. to r.): R. Caskey and William Stewart, Man.; Mrs. R. Berger and A. N. Belous, Sask., and G. Skinner, Alta.



George Church, president, United Farmers of Alberta, and a veteran of the farmers' movement, presenting a 50th birthday cake at the U.G.G. banquet.

The Czar of Antler Lake



At last, old Wasyl Sidjak was dying. He was a long time dying. Long after the last truck had rattled along the section road, a door closed quietly at the back of the Sidjak farmhouse, and Wasyl's great-grandson came round the side of the building, followed by his sister. The snow muffled the sound of their feet on the board walk. By a sort of instinct they avoided the lighted window of the room where the old man lay.

Instead, they crossed the empty garden and climbed the fence to reach the road, rather than open the creaking gate. Something made Dmitro stop to look back, but Milda walked on, listening to the crunching noise underfoot as her heavy snowboots slipped on the loose gravel at the side of the road. Their father and a neighbor were watching by the old man's bedside, and Milda and her brother were on their way back home to give their mother the latest word of their great-grandfather's condition.

The first snow of winter had fallen, a crystal dust that gave off fugitive sparks in the starlight. Above the frost haze the sky was clear but for the restless, faintly green fingers of the aurora, soundlessly probing into the dark blue dome. Against the indeterminate background of the level prairie the white-painted farmhouse was almost invisible. All through the nights since the onset of winter the light had shone steadily from under the partly drawn blind of the corner window. Old Wasyl was taking a long time to die.

Aware at last that her brother was not following her, Milda turned impatiently and waited. "Come on!" she called, the cold loneliness of her surroundings making her voice urgent; but Dmitro paid no heed. The necessity of being beside something human and alive forced her to go back and join him. She had wanted to get away from the oppressive hush in the house, but now, if she had been alone, she would have run all the way home.

"It's late, and I'm cold," she pointed out irritably. "Let's keep moving. Can't you hurry?"

"Listen!" He checked her with a warning movement. "Be quiet and you'll hear it."

"Hear what?" Instant fear sharpened her voice, the back of her neck prickled. Coyotes? Or . . . wolves? She whipped around and looked about the white fields.

"A rustling sort of sound!"

"Oh! Where?" A spasm contracted her throat, and she edged closer to Dmitro. His face was turned to the sky.

"There it is again!"

"Up there?" She laughed shortly, relieved, feeling fooled. "It's nothing . . . wind, perhaps. I thought you meant. . . . Hurry, can't you? It's cold, standing here."

"No, there's no wind." He listened intently. "That's it—it's the sound of freezing. We're in for a cold spell. I was thinkin—"

"Well, if that's all! I can't hear anything. Let's go."

Dmitro hardly heard her. "It doesn't seem so bad, out here . . . Grandpa Wasyl dying," he said, half to himself. "Perhaps he'll just stop breathing, and go without any pain. Dad says he's not in pain at all. He's always been so strong—never an illness in his life. Isn't that wonderful? He's just dying because he's so old. Like the works running down. I suppose it's a good way to die."

"Oh, stop it! You give me the creeps." Milda shuddered. "It must be awful, however it comes. When you're that far gone, you can't stop it happening to you. And he's a very old

man. Come on! I'm getting colder and colder." She tugged at the sleeve of his coat and made him move. They continued along the road, kicking up the thin snow. Against her will, Milda's mind was busy, remembering things long-forgotten.

HE was ninety-seven, this great-grandfather she so feared, and for nearly sixty years he had farmed in the Antler Lake district. A silent, tireless man with a bare dozen of English words, he had been the first to clear land in the area when it was opened to settlement and the Ukrainians had commenced to come into western Canada. The Antler Lake homesteaders had been very isolated in the early days, and in that tightly knit community Wasyl had in the course of time, become the chief man, their Little Father. Many of them were his own sons and grandsons, or had been brought into the family by marriage; but he had ruled them all. Strength and determination and an enormous vitality had emanated from him, and the settlement had prospered. Now he, the indestructible, was close to death.

Illustrated by Annora Brown

To Dmitro, the life that had been built up in this place by his great-grandfather, and added to by Grandpa Fedor and Dmitro's own father, was part of himself, something he did not need to think about. It was an extension of his own life backward into Time. He took his own existence for granted as part of the pattern. In due course, he would follow on. He was only vaguely aware of the forces that had uprooted old Wasyl and brought him here where everything was strange but the resemblance of the land itself to the far-away place where he had been born. But he, Dmitro, felt no strangeness, because this was his home. Milda's fretfulness was nothing. He knew she did not have the same feeling for the farm that he had, nor did he expect it of her. She was oppressed by the inevitability of death; he saw it as part of a cycle.

Where the road topped a slight rise, a wide gate led into a field. Here was the small village cemetery, shadowed by a few trees at the farther end. Drawn to the place by some inner compulsion, they hung back for a moment; then Dmitro crossed to the gate, stopped and looked over. Milda followed reluctantly.

(Please turn to page 31)



Milda turned back and joined him. She studied the tombstones that stared at each other across the center path.

Tractors in Cold Weather

*They don't need heavy underwear, boots and outer clothes,
but they do require special care and adjustments*

by J. A. PECK

A FARM tractor, like a human being, can withstand winter's bitter blasts if it is prepared for the weather. If the winter of 1956-57 is anything like the 1955-56 version, we probably will be using an increased number of farm tractors for snow plowing duties, moving livestock feed, and many other chores about the farm. If your tractor is to be used through the winter months, satisfactory service will depend on many factors. The following review of service hints for winter operation, if followed, should allow the farm tractor to give dependable winter operation.

Antifreeze in the cooling system is essential, and is the minimum protection that a tractor must be given for winter operation. The low cost of antifreeze in comparison with the cost of a new radiator, block, or cylinder head, warrants its use, rather than taking a chance on using water as a coolant and draining it when the engine is stopped.

Where the engine is to be used little, *methyl alcohol* can be used. This is a "volatile" antifreeze, because it will evaporate under certain conditions, thus raising the temperature at which the cooling liquid will freeze. Therefore, it is necessary to check the effectiveness of this antifreeze periodically, with a good tester.

Ethylene glycol is non-volatile, which means that it will not evaporate, and is a permanent antifreeze. It also raises the boiling temperature of the liquid, which in many cases is an advantage. The table given on each can should be consulted, to obtain the proper mixture with water, for protection to any desired temperature.

If a permanent antifreeze is used more than one winter, chemicals originally contained in it that prevent, or slow up, corrosion, are not effective; and if the antifreeze is to be used again, it is beneficial to add a can of corrosion inhibitor. This can be purchased separately. Over a period of time, acids form, and the addition of a tablespoonful of baking soda will neutralize any acids that have been formed.

Before installing antifreeze, the cooling system should be flushed to remove loose rust, scale and other formed materials. Patented flushing chemicals may be purchased from automotive dealers for this purpose. Check all hoses and connections for leaks. If there are any doubts, replace the hoses. A winter thermostat should be installed also. This is one with an opening temperature of 180° F. Radiator shutters should be used to give a quick warm-up in cold weather. A final check as to the free operation of these shutters should complete the servicing of the cooling system.

Lubricating systems require much attention for winter operation. For summer operation a relatively heavy oil is used. If this were used in cold weather, however, starting would be difficult and lubrication inadequate, until the engine temperature reached normal. For this reason, a much lighter oil should be used in the crankcase: either 10W or 5W, depending on how low the temperature is expected to go. The viscosity (stickiness) of these oils at low temperatures is low enough to allow the engine to be turned over with reasonable ease by the starting motor.

Other oils worth consideration are the 5W20 and 10W30 oils. These oils have a high viscosity index, which means that they have a much smaller change in viscosity, with changes in engine temperature, than the oils in general use. They are referred to as "multi-viscosity," or "all-weather" oils, and can be used the year round. They have low viscosity when cold, which makes for easier starting; and when hot they maintain sufficient viscosity to give adequate lubrication, under normal conditions of operation.

They are detergent (cleansing) oils, and if used in engines which have been using regular, or premium, oils they will loosen up sludge in the engine. This may clog the oil pump screen and result in lack of lubrication, on some parts. Flushing and draining the crankcase first will help make the use of all-weather lubricants, or other detergent oils, safe.

During the cold weather operation, oil and filters should be changed often, especially if the engine is operated intermittently. Sludge formation and engine wear is greatest during the warm-up period. This makes it imperative to obtain a quick warm-up. If water sludge of sufficient amounts is present in the filter and oil lines when the engine is not in operation, ice may form and cause plugging, when the engine is started. After the engine is at normal operating temperature, feel the oil filter with the bare hand. If cold, the oil filter, or line, is plugged, or frozen; if warm, the filter is in operation.

The oil in the transmission and differential should be removed, and a lighter winter grade substituted. For very cold temperatures a small percentage (ten per cent) of kerosene may be added to lighten the oil. This, of course, must be replaced with summer grade oil in the spring.

Electrical system. The battery is the heart of the electrical system, and care should be taken to keep it well charged, otherwise it may be damaged. A fully charged battery, with a specific gravity of 1.280 to 1.300, will stand (Please turn to page 48)

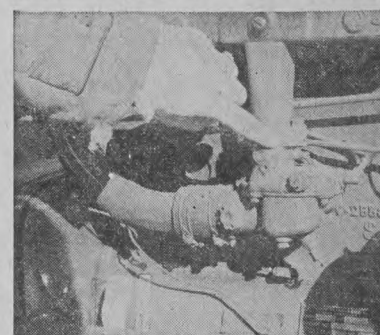
Check
breaker
points,
condenser
and rotor.



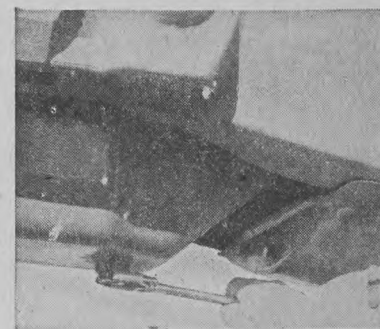
Replace
oil filter
cartridges
often
in winter.



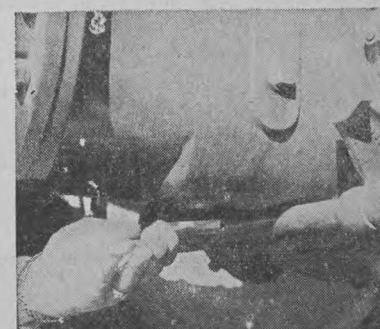
Give the
fuel
system
a full
tune-up.



Change
crankcase
oil often
to head off
trouble.



Use lighter
winter oil
in trans-
mission and
differential.



Help from the Depths

This is a story written out of the varied experiences incidental to prairie homesteading many years ago

by JACK SUTHERLAND

MARGARET LUASTRAI was tired. She was discouraged, and lonesome for her husband, Paul. Her feet in the big rubber boots were wet; likewise her blue jeans were soaking from the early morning dew. However, the bright mid-morning July Alberta sun would soon dry these. There she was, sitting on a boulder on top of Bright's lookout, the highest hill in the whole country, taking a few minutes to rest from her long walk, and to think.

Margaret was a great one to think and plan and act. Her mixed parentage had given her a rich endowment of brains and executive ability. Her father, a Highland officer in the famous Forty-second Black Watch, had been invalided home after long months in military hospitals, and discharged with honors, medals, a very small pension, and little else. Unable to do but a very limited amount of manual labor, a life of poverty and idleness in the Home Country did not appeal to him. So he decided on the Colonies. Canada was the closest, and the Canadian West was the newest.

After several years as a rural school teacher in various localities, one of his better boarding homes was with a family of Americans from Pennsylvania, of Dutch and Irish extraction. There Peter found his bride, and thus Margaret's immediate ancestry. She was an only child and, like her father, also took up teaching. Her parents both having passed on shortly after her start in teaching, she left Manitoba and came further West in search of higher wages in the then new Province of Alberta.

Teachers were scarce in the new homestead country. An empire was being settled. All the way from Moose Jaw to Edmonton, new schoolhouses were being built, so Margaret got a school and for several years resisted all the blandishments and efforts of many homestead bachelors, until at her last school she met Paul Luastrai. Yes, here he was, the man of her dreams. Paul, six-foot-two in his sock feet, 198 pounds of bone and muscle, dark and handsome. Paul, who could and did pitch bundles all day, and dance all night at the schoolhouse dances, ride almost any horse, fight at the drop of a hat—and as quickly forgive. Paul, who, once, after giving a terrific beating to two Swedes who jumped him in a railway construction camp, loaded them in his wagon and drove them 50 miles for surgical attention. Yes, this was Paul, the Finn: Her husband, almost a giant physically, but a veritable babe in arms where business matters were concerned. He would work hard and steadily for months, and then, if she was not close at hand to

advise and direct, would make some of the most ill-advised and hopeless deals imaginable.

ONE of these took place only about a year after their marriage, and after they had started their new home on Paul's half-section homestead and pre-emption. Margaret had given up her neighboring school and was buried in all the details of making a home out of a shack, part lumber, part sod. There was a garden. There were chickens and turkeys and there was

and agent for several mortgage companies. He made a lot of his money by repossessing used implements, painting them up, and selling them at exorbitant prices to young, unsuspecting settlers.

"How much?" she asked, with a flutter of her heart.

"Three hundred and fifty dollars for mower, rake and binder—all in good shape," he replied. "One hundred and eighty dollars cash and my note for the rest at ten per cent. I must get those machines unloaded and then go

alone, with little Helen, about three years old.

Last night she had searched the small pasture with its few willow-dressed sloughs in vain, for Bessie. She had found several breaks in the wire fence, but the ground was so hard and dry that her untrained eye could not detect any tracks. Bessie was coming in fresh very shortly and must be watched.

This morning very early she had started again looking for the missing animal. Searching again in the pasture, thoroughly, as she thought, she found no trace, so she must go outside to search. Her saddle horse had been lent to a neighbor lady, Mrs. Jensen, who, with another neighborhood chum, Marge Black, were leaving early on a 15-mile ride to the nearest post office at Finger Hills. So Margaret was afoot, at least for the time. Snatching a hasty breakfast of toast and coffee, she took little Helen over to stay with ten-year-old Ruth Black, while she hunted the cow. Jim Black was also away on the big ditch, with Paul.

Well, neither Sandy Murray, who had given her coffee and scotch scones, nor Mrs. Sotnikow, the Russian, who also offered hospitality, nor the Jensens, had seen any trace of Bessie the cow.

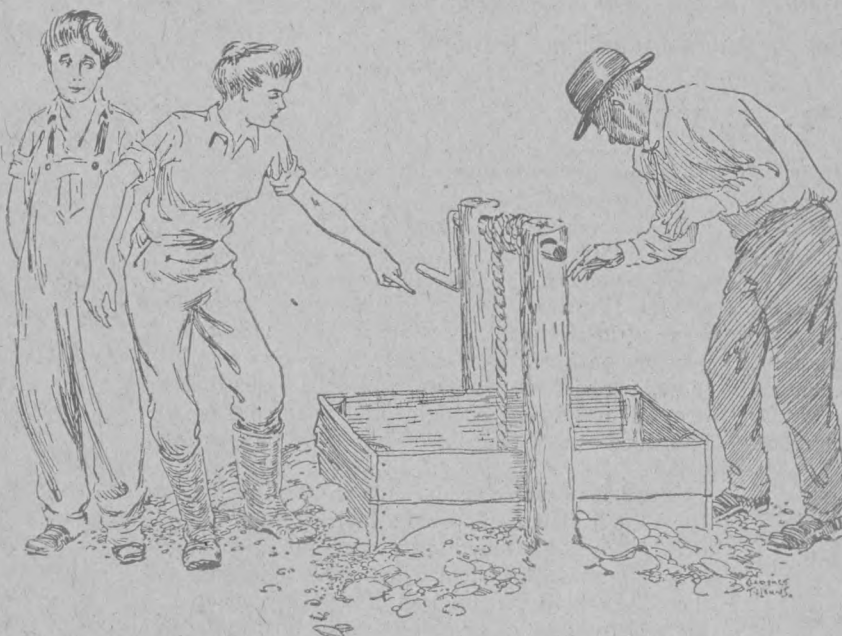
She knew that if she climbed Bright's lookout she could see for miles in any direction. So here she was, with her father's military field glasses, of splendid magnifying power, scanning the whole country. Away to the south was the Big Redding Lease, with hundreds of range cattle, but fenced and well maintained. Away off, miles to the southwest, she could see two riders. That would be Marge and Mrs. Jensen coming back with the mail from Finger Hills. Oh, if there were a letter or card from Paul!

Well, she would take one more look around with the glasses, and then she would go to Marge Black's, have Pansy, the saddle horse, fed and rested, and look for Bessie again, this time not afoot.

Again she searched the bluish haze of the July sunlight. Smoke from far-off forest fires was already dimming the prairie horizon. East there were ten head of cattle grazing. That would be five oxen belonging to Chinese Charlie, and five head belonging to the new Englishman, Summers, all feeding together. North there was a big steam outfit with a long plume of smoke trailing—Bob Duncan's new steam breaking outfit. How she wished they could afford to hire Bob to break 100 acres.

Far off, northwest, a team and buggy on the prairie trail coming from Stillicombe, the end of steel, 100 miles away. None of the settlers had a

(Please turn to page 43)



"I was bending over the well when my pocket book slipped from my pocket," Margaret replied. "And now it's down there in the mud. What will we do?"

the cow Bessie, and the young heifer, four horses and a saddle horse.

That summer, to earn some ready money, Paul had been away for a couple of months on the railway grade. Two transcontinental railway lines across the plains were now almost finished. Construction had come to a definite halt. Paul came home with a bank draft for a couple of hundred dollars.

Margaret had been in high hopes about this money. There were so many things they needed so badly. Paul went off to the bank at the nearest end of steel, to cash this draft. The town was over 100 miles away. They needed a mower and rake very badly to put up some of the prairie wool growing so abundantly. Margaret advised a new mower, and maybe they could borrow and exchange work for a rake.

Days went by and then Paul drove in the yard with a mower and rake piled up in the wagon.

"Now we can go after it," he said. "I also bought a binder. All this I got from Walter Cross."

Margaret's heart sank. Walter Wilson Cross, known all over the homestead country as Double-Cross, the outstanding money maker and lender of the whole area—implement man,

back for the binder," said Paul proudly.

With the machines unloaded and together once more, they looked nice and bright and shiny with new paint. Margaret, with Walter Cross's reputation in mind, was most uneasy. Meeting Sandy Murray, a neighboring bachelor who was a steam engineer and the neighborhood mechanic, one day, she invited him over for supper and to inspect the new machinery. His short spoken verdict was, "If Double Cross got \$180 for this bunch, he got more than it's worth."

"But," exclaimed Margaret, "he has our note for nearly \$200 at ten per cent till due and twelve after."

"Some day," said Sandy, "Double Cross will get what's coming to him."

WELL, they had been trying to pay that note ever since. This summer had been dry. There would be a little wheat for chicken feed, some maybe for a grist to the flour mill, and some seed. There would be some oats for horse feed, but no big crop. Early in June, Paul had taken the horses out to work. Railway grades being now finished, the settlers took their teams south on the big irrigation ditch at Bassano. So now again Margaret was

The story of a South African Farm Family

Something of a revolution in the agriculture of the Orange Free State has been sparked by this farmer

by G. J. VAN ZYL



Wilhelmina and Hendrik play while Piet and Isabella Eksteen enjoy coffee with their elder daughter, Sybil, on the stoep of their homestead Boomplaas, or Tree Farm.

I WANT to introduce you to one of the happiest men in South Africa. He is round-faced, plump Mr. Pieter Eksteen, and he is happy because he is one of the vanguard in a successful agricultural revolution. His example, in fact, is leading swiftly to the adoption of a new system of sound, diversified farming on South Africa's productive Highveld—the plateau on which stands fabulous Johannesburg, from whose mines a golden stream of wealth has poured into the world for the past 75 years. Near his farm—not 50 miles away, in fact—are the new Free State goldfields, whose uranium and gold are swelling the Union's treasure chest.

Grass is the banner under which Mr. Eksteen has mustered his followers, and grass is the very substance of his revolutionary movement...

But before you can get to know Mr. Eksteen as a man, and before you can appreciate the scope and significance of his work, it is necessary to sketch in the background.

First of all, there is the Orange Free State where his farm is situated. This is South Africa's central province, a flat plain with rolling, prairie-like grasslands with here and there a tree, lying at an average height of about 4,000 feet above sea level. Its soil is fertile and, for the most part, deep, but it suffers a handicap common to the whole of South Africa's interior: it gets its rainfall of about 25 inches a year only between October and April. And even then, much of this rain comes in the form of torrential summer thunderstorms that batter the earth, leach out its nutrients, and carry off the rich topsoil to the rivers and the sea.

In winter the generally warm days are followed by freezing nights, and the veld dries up into a cheerless, brown landscape of dead grass. There is no snow, and if the spring rains are late, the cattle, sleek at the beginning of the cold weather, lose condition faster and faster. Along the roads they stand knee deep in grass that gives them no nutriment, and resemble, in their immobility, futuristic hatracks. This is no idle figure of speech, for their hipbones and their horns could easily be used for the purpose.

The revolution that Mr. Eksteen is helping to foster will change this picture, though.

THE Orange Free State was first settled by White pioneers, the Voortrekkers (the word means those who led the migration), about 100 years ago. These men and their families trekked up from the Cape Colony to find new pastures for their herds of sheep and cattle, and found a country virtually devoid of human life, but rich in game—lion and leopard, springbuck and blesbuck and koodoo in their thousands. The rich grasslands were lush and lovely, and the apparent aridity of the landscape was belied by the thousands of fountains bubbling crystal clear water. Today there are scores of farm names ending with the suffix "fontein"—fountain. Many of these fountains have, alas, dried up because of bad land use.

The needs of the pioneers were simple and were easily met by their environment. The game and

eagerness to supply the insatiable demands of the growing towns, they exploited their soil with bad farming. They found that maize (Indian corn) grew well, and that all that they could produce would be consumed, not only as feed for animals, but also as food for humans. Maize meal was the staple diet of the Africans who labored in the mines, in the towns and villages, and on the farms themselves.

And so, year after year, maize was produced, resulting, inevitably, in the impoverishment of the soil and the drying up of the fountains. In time, conditions that led to the creation of the vast Middle Western American dustbowl were being duplicated in Africa, and every spring, when the windy season began and before the saving rains fell, wind erosion threw up grim, black clouds that obscured thousands of square miles of country.



*Afrikander cattle, crossed with Shorthorns and Herefords, graze on the *Eragrostis curvula* grass, selected by Piet for its high carrying capacity on the veld, which resembles Canadian prairie.*

their domesticated herds supplied them with meat and tallow and skins for their boots, their harness, and even for some of their garments. They were a simple, pastoral people who delighted in hunting, and they grew comparatively few arable crops.

Then came the discovery of diamonds in Kimberley, of gold in Johannesburg and, at the beginning of this century, the South African War. This saw the end of the republics of the Orange Free State and the Transvaal; and, in 1910, the formation of the Union of South Africa, which incorporated the two Boer republics and the Colonies of the Cape and Natal. The mines resumed production, and as their wealth was wrested from the earth, great towns, offering markets, began to develop. Overnight, South Africa's farm economy began to change from a subsistence basis to a productive one.

But the pioneers, cut off from Europe for more than 200 years, had no real tradition of soil husbandry. The inevitable result was that in their

ONE of the first practical farmers who realized that something had to be done was Mr. Pieter Eksteen, who at that time was still a youth working for his father and earning a small wage. Grass, it seemed to him, was the answer. He could hardly read English, but avidly struggled through every article in English-language farming magazines that told of grass-ley practices overseas (at that time there was no Afrikaans-language agricultural magazine).

He tried hard to persuade his conservative father to introduce leys, but was met with skepticism and refusal. On their farm in the southern Free State, about 50 miles from the capital, Bloemfontein ("the fountain of flowers"), they went on farming in the old, destructive way.

Then, in the middle thirties, Pieter Eksteen's grandfather, who had a farm in the northwestern Free State, about 200 miles away, died and left it to his son, who sent Pieter north to take over and, eventually, in 1943, to rent it. (Please turn to page 30)



The unpretentious home at Boomplaas nestles in luxuriant shrubs. Piet is planning a new house.

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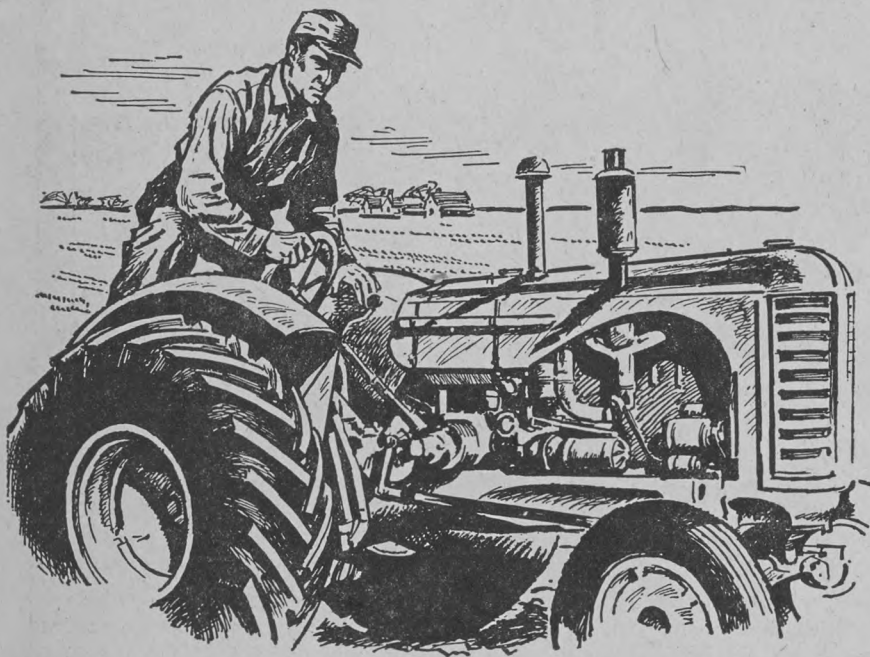


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Under the Peace Tower

by HUGH BOYD

WHILE L. B. Pearson helps enhance his country's reputation in international affairs, at the critical sessions of the United Nations, the Prime Minister has been working at home in his own quietly effective way. Mr. St. Laurent's chief contribution in recent weeks was, of course, the announcement of new plans for aiding universities and students. This has been commented on widely and, on the whole, favorably.

The Prime Minister made another speech a little later that was less spectacular in content, but yet as thoughtful and stimulating as any he has delivered in recent months. It covered a wide field, being largely devoted to the proposition that critics who deplore government intervention in social and economic matters as steps toward communism are wrong. "These people," he said, "have not yet realized that communism is not brought about by social progress, but too often by the very individualism which they favor."

Among the areas which Mr. St. Laurent touched on in his defence of government action was agriculture; and here he brought up the question of land use. His remarks, although some of them refer specifically to eastern Canada, have a fairly wide application in principle, and perhaps are worth repeating here:

"I am convinced that some of the land in eastern Canada that hard-working Canadians are trying to use as farms should go back to forest and water conservation and those attempting to live on them resettled in more rewarding surroundings. Something less than the present total area under agricultural pursuits must be made to produce more foodstuffs than is now being obtained.

"I suggest this should be the urgent business of all levels of government as well as private enterprise, both individual and co-operative, to see to it that agricultural production keeps up with our increase in population and thus provides the farming population with a fair share of the national income."

THE Prime Minister thus shows himself well aware of a problem of growing magnitude in parts of the country—indeed it exists in some measure in every part—which will become more serious the longer it is allowed to drift. In the Ottawa Valley and several counties of eastern Ontario, for example, a survey has shown that the number of farm families supporting themselves solely from the land is steadily shrinking. More and more of them rely on part-time employment in towns and cities, or in the bush, or have to augment their incomes in some way apart from farming.

Mr. St. Laurent may have been thinking of this situation when he spoke. The federal government itself has indicated a far more cautious attitude toward price support measures than has been the case in the



United States. Its attitude is that price supports may be justified, in order to tide some section of the farming industry over a crisis and perhaps to allow it a breathing space in which to switch to some other form of production.

A fair share of the national income, as the Prime Minister recognizes, is an imperative. Evidence accumulates that Canadian agriculture as a whole is not getting it today.

Well, there is a general election not many months away and, whatever his economic position may be in relation to other groups, the farmer does continue to enjoy one advantage. He has voting power. Although the gap has been narrowed, urban and suburban constituencies still contain more voters than broadly rural ones, meaning that rural seats have a political strength out of proportion to their population. Under all the circumstances, and so long as it is not pushed to extremes, it seems a defensible arrangement.

Mr. St. Laurent may have been doing a little quiet reflecting on the farm vote as he prepares to lead the Liberal party into another general election campaign. There is no question of his eagerness to lead it once again. He has shown himself, lately, full of vim and quite recovered from the weariness that had plainly overtaken him during the closing stages of the last session of Parliament. And if he remains in such good fettle, he will be as formidable as ever on the hustings.

The Conservatives, who know from sad experience just what a campaigner the Prime Minister can be, are under no illusions. Few of them at this stage really expect to defeat the government in 1957. Even that, the more optimistic say, is not impossible. But it will be very difficult, especially as the opposition to the Liberals is as badly split as at any time. Mr. Drew's declared policy, as given to the last annual meeting of the national Progressive Conservative Association, was to appeal to every anti-Liberal to support the Conservatives, regardless of whether they had fancied the CCF, Social Credit or independents in the past; and at the same time he gave a definite undertaking not to enter into coalitions with any other group.

Whether his successor will follow the same uncompromising strategy remains to be seen.

GET IT AT A GLANCE

Farm News
At Home and Abroad

World wheat stocks are still increasing, according to the Food and Agriculture Organization. The increase was one million metric tons last year, and it is estimated that another 2.2 million tons will be added by the 1955-56 season. ✓

A pound package of butter is being marketed in four individually wrapped quarter-pound prints by the United Co-operatives of Ontario. The quarter-pounds fit most butter dishes, or can be sliced for individual patties. ✓

The first controlled atmosphere apple storage in western North America is being built in the Okanagan Valley, B.C. It may add three months to the storage life of the McIntosh variety, and could extend the market period by ten days to two weeks after removal from storage, as compared with air storage. ✓

Red Danish cattle, a dual-purpose breed, now have a breed association in the United States, and have become popular in Michigan. There are some in Canada. ✓

Russian wild rye has become domesticated, and a quantity of No. 1 seed is being distributed by the soils and crops branch of the Manitoba Department of Agriculture. It is used for pasture mixtures in drier areas, but requires good drainage and ample moisture for seed production. ✓

The Canadian wheat crop for 1956 is now estimated at 537,796,000 bushels, according to the Bureau of Statistics. This does not include durum wheat, which reached a record total of 43,300,000 bushels this year. ✓

Herbage exposed to radiation from the explosion of atomic weapons in Australia has been fed to sheep, rabbits and other animals, and the amount of radiation being absorbed by the animals is being measured. It is hoped to provide valuable data on the contamination of food in this atomic age. ✓

The Agricultural Institute of Canada has appointed J. E. McCannel as executive secretary. A 1950 graduate of the University of Saskatchewan, Mr. McCannel was on the personnel selection staff of the Civil Service Commission of Canada, until recently. ✓

Accidents on Alberta farms in the first nine months of this year claimed 67 lives, compared with 56 in the same period last year, and 69 in the whole of 1955. Tractor mishaps have decreased, however, and this is believed to be partly due to the safety program of the Alberta Safety Council. ✓

Farm products shipped through the Suez Canal in 1955 made up 15 per cent of the total of 107.5 million metric tons, according to the U.S. Department of Agriculture. The most important movement was east to west, bringing food and raw materials from East Africa and Southeast Asia to Europe and North America. ✓

Nearly a hundred farmers and their wives from Alberta, Saskatchewan and Manitoba visited the Ontario Agricultural College, Guelph, recently, during a tour of eastern Canada. ✓

Much smaller supplies of pork are expected until next fall, it is estimated by the Marketing Service, Canada Department of Agriculture. Figures for the last quarter of 1956 show 10 per cent smaller runs than a year ago, with a still heavier reduction of 18 per cent in prospect for the first quarter of 1957, followed by a 12 per cent decrease in the second and third quarters. ✓

Wool production has been increased in New Zealand by 13 to 20 per cent by implanting a hormone tablet under the skin of sheep, following three years of tests by Dr. D. S. Hart of Lincoln College, Canterbury. ✓

More humane methods for slaughtering animals may result from an investigation to be made in abattoirs by the Toronto Humane Society, at the request of the Toronto Board of Health. ✓

The Saskatchewan Wheat Pool annual meeting asked that the Wheat Board should market all grains produced in western Canada, especially flax and rye. The Board handles wheat, oats and barley at present. ✓

Artificial breeding of cattle started in 1788. According to Professor T. Bonadonna of Milan, a monk named Lazzaro Spallanzani experimented with artificial breeding nearly 200 years ago. Last year, 22 per cent of all the calves born in Italy were the result of artificial breeding. ✓

The British Columbia Milk Board, for the second successive month, increased the accounting value of Class 1 qualifying milk in November. The new value is \$5.577, compared with the original price of \$5.32, making an increase of 25 cents per 100 pounds of four per cent milk. ✓

Manitoba's poplar trees could support an investment of \$38 million by industry, according to the provincial Department of Industry and Commerce. The industries would be producing newsprint, corrugated board, and several "satellite" products. ✓

A minimum length for pigs in higher grades has been set by the British Ministry of Agriculture. Effective next March, the minimum length for higher

grading will be 30½ inches, but some doubt exists among farmers as to the way to measure the length, owing to stretch when the carcass is hanging. ✓

Ontario hatcheries have produced 1,618,665 turkey poults this year, according to the Canada Department of Agriculture. With an estimated total value of \$25 million in 1956, 64 per cent more turkeys were hatched in Ontario this year than last. ✓

Claiming a harvest of 215 bushels of wheat from less than two acres, R. P. Severn of Stornoway, Sask., says that a neighbor helped him to combine the small field and can vouch for it. This is a yield of more than 108 bushels an acre, compared with the provincial average of 23.5. ✓

W. C. Mooney of Wawanese, Man., has been elected president of the Manitoba Stock Growers' Association. After its first year, the Association now has 226 members. ✓

The first considerable increase in hog prices in several months was recorded in the United States in early November, following an announcement that the Department of Agriculture would spend \$100 million to support hog prices. The top reached was \$15.50 per 100 pounds. ✓

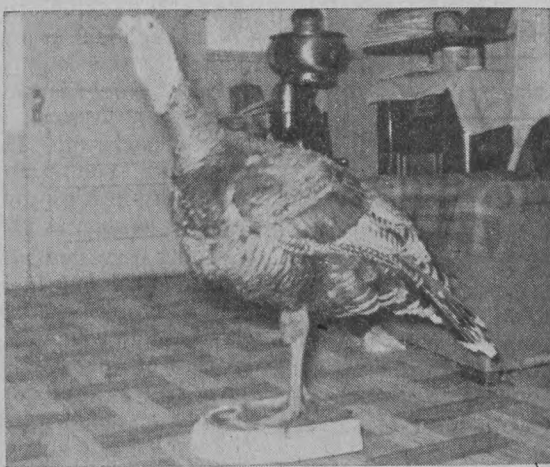
Wild rice seeds have been sown by aircraft in Washagami and Canoeshead Lakes in northern Ontario by the Department of Lands and Forests. The seeds came from rice crops in the Gogama district. ✓

Over 1½ million trees were planted on Alberta farms last year, to serve as farmstead and roadside shelterbelts, and field windbreaks. The provincial Department of Agriculture has some caragana, green ash, Manitoba maple and lodgepole pine available for 1957 plantings. ✓

About 9,000 tons of egg pulp will be delivered to the United Kingdom by the Australian Egg Board in the next six months. A contract for 1,000 tons of pasteurized egg pulp has been negotiated with Western Germany. ✓

The annual harvest of eels by Quebec farmers on the banks of the St. Lawrence River yields about a million pounds of eels for the freezing plant. Using steel-wired traps, some farmers can earn up to \$1,500 during three months in the fall and early winter. ✓

Readers' Snapshots

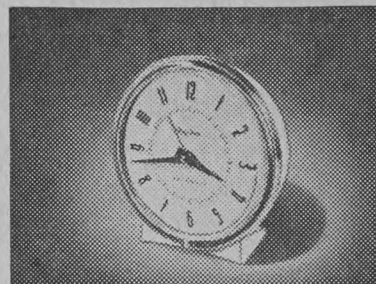


Posing on the scales for Mrs. Andrew Reinhart of Tompkins, Sask., this fugitive from Thanksgiving was ready for Christmas at 33 pounds.

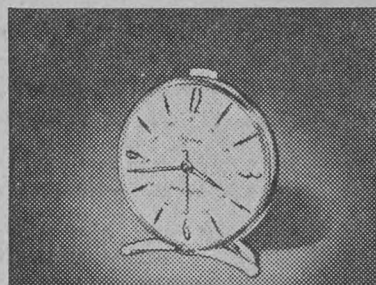
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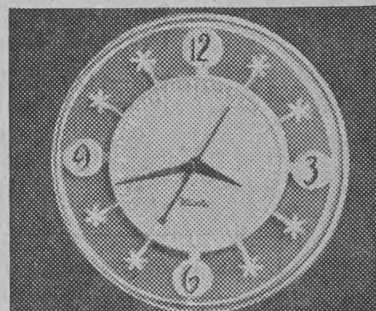
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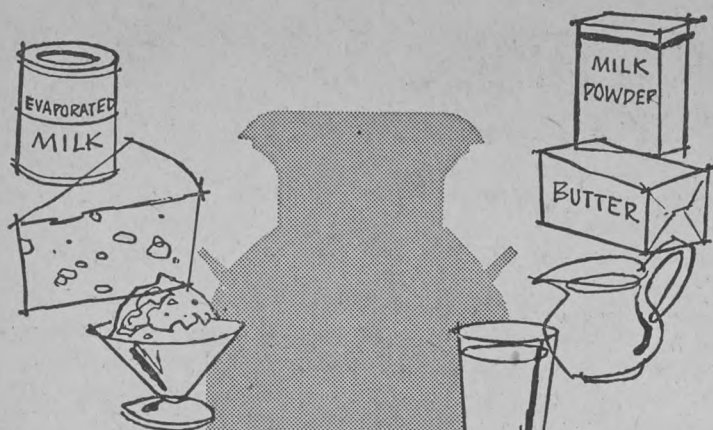
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Markets for Dairy Products continue to expand

The objective of the advertising and sales promotion issued by the Dairy Farmers of Canada is to maintain and expand the home market for the products of Canada's milk producers. The figures for per capita consumption of dairy foods for 1951 and 1955 indicate what has been accomplished in the last five years in the face of heavy advertising and promotion of competitive foods and beverages.

ANNUAL PER CAPITA CONSUMPTION OF DAIRY FOODS 1951 vs. 1955

FLUID MILK AND CREAM	1951—314.4 PTS.	1955—318.61 PTS.
CREAMERY BUTTER	1951—19.17 LBS.	1955—19.29 LBS.
CHEESE	1951—5.70 LBS.	1955—6.58 LBS.
SKIM MILK POWDER	1951—3.72 LBS.	1955—5.18 LBS.
EVAPORATED MILK	1951—17.86 LBS.	1955—18.46 LBS.
ICE CREAM	1951—14.48 PTS.	1955—16.72 PTS.

Here's how the figures compared at the end of 1955 with 1951

Fluid milk & cream, up 4.21 pts. or 1% at 318.6 pts.
Creamery Butter, up .12 lb. or .6% at 19.29 lbs.
Cheese, up .56 lb. or 15.4% at 6.58 lbs.
Skim Milk Powder, up 1.46 lbs. or 31.9% at 5.18 lbs.
Evaporated Milk, up .60 lb. or 3.4% at 18.46 lbs.
Ice Cream, up 1.34 pts. or 15.5% at 16.72 pts.

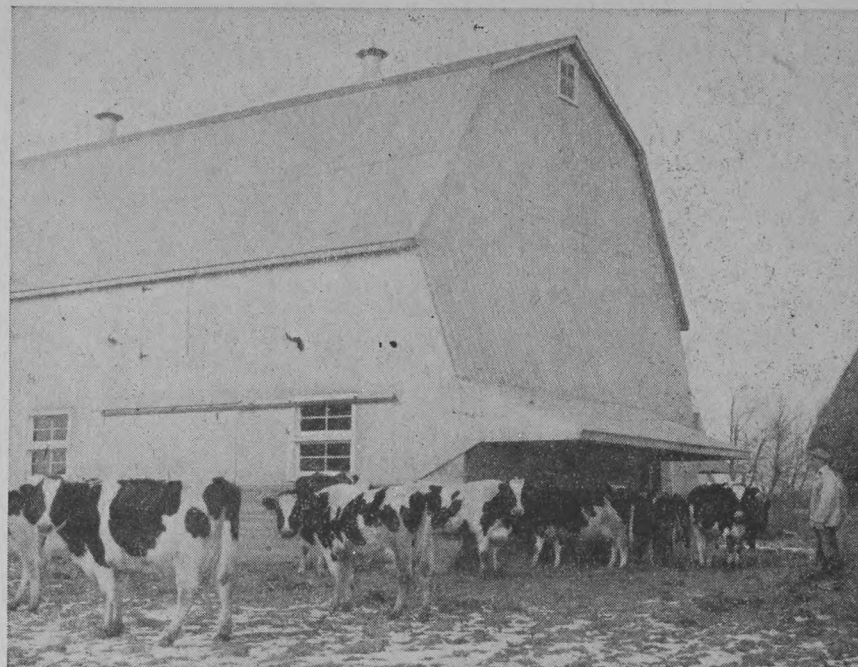
Total consumption of dairy foods, in terms of milk, was 1028.41 lbs. per capita, placing Canada fifth among the nations of the world.

Canada's steadily increasing population (11.4% in the five-year period compared above) together with gains in per capita consumption provide an ever growing market for the Canadian dairyman. But, with a 14.1% increase in the number of milk cows and a 17.0% increase in the amount of milk sold off the farm, continued gains in per capita consumption of dairy foods is essential for the economic health of the dairy industry.

DAIRY FARMERS OF CANADA

409 HURON STREET  TORONTO, CANADA

LIVESTOCK



Roswell Bailey of Wainfleet, Ontario, says that his dairy cows are healthier when they feed outside. He designed this loafing barn and feeder for them.

Bloat Control Experiments Promising

ALTHOUGH further experiments are needed, two out of three treatments have given satisfactory protection from bloat in dairy cattle fed mechanically grazed ladino and alfalfa forage in preliminary trials at the Summerland Experimental Farm, B.C.

J. E. Miltimore reports that the three treatments were 75,000 units of potassium penicillin, nine ounces of mineral oil, and 40 grams of Antifoam AF emulsion. The treatments were given through the mouth after the morning milking, using 20 milking cows over a four-week period.

No bloat occurred in a group treated with the mineral oil, and only one animal showed mild bloat in a group given the penicillin treatment. But animals in a control group (no treatment) and those having Antifoam AF, bloated frequently, with marked daily fluctuations in the number of recorded cases. The treatments must be evaluated with grazing animals, and also to determine dosage rates, before any recommendations can be made.

Supplements For Winter Feeding

A GOOD supply of supplements is as important as a good supply of fodder for the long winter feeding period, if proper nutrition is the aim. Erle Roger, livestock specialist with the Saskatchewan Department of Agriculture, recommends livestock men to lay in a supply of these supplements as soon as possible.

Fodder harvested late in the season is often quite low in quality, and a protein supplement should be fed with farm-grown grain, especially in the case of young animals, to maintain a high rate of growth. The cost of a protein supplement is more than returned because animals make better use of other feeds if it is included in their rations.

With one pound of protein supplement per day (32 per cent concentrate or linseed oil meal) added to a

small amount of grain, most animals will have sufficient, says Roger. It is also wise to keep salt in the feeding quarters where animals have access to it at all times, and good water is important in successful winter feeding, too.

Proved Sires Needed for A.I.

ARTIFICIALLY used bulls breed an average of 2,000 cows a year, and this could be increased many times if there was a strong demand for semen from a particular bull. Breeding bulls are used more heavily in artificial insemination than in natural service, and mistakes in bull selections are much more serious when they are used artificially.

C. G. Hickman, dairy cattle breeding research officer at the Central Experimental Farm, Ottawa, says that clear objectives must be established for what is needed in a profitable dairy cow, and breeding programs for bull selection are imperative. Otherwise, artificial insemination can lower the producing abilities of the present generation of dairy cattle.

He suggests that young bulls out of cows known to out-produce their stable mates for several lactations should be put into limited artificial service in many herds. After a year, they should be taken out of service until the daughter production is known. With this information, the best bulls can be put back into service for heavy use, and the remainder, whose daughters fail to do better than average, should be shipped to the slaughterhouse. The present scarcity of highly selected bulls discredits artificial insemination and emphasizes the need for sire proving programs.

Have Your Frozen Flax Tested

SAMPLES of frozen flax sent to the University of Alberta have shown varying amounts of prussic acid, reports Dr. L. W. McElroy, professor of animal science. In about 25 per cent

LIVESTOCK

of the samples, the prussic acid content was sufficient to be dangerous to livestock.

There is a greater concentration of prussic acid in the head than in the rest of the plant, and it is advisable to have flaxseed or unthreshed flax analyzed, if it has been frozen and is intended for feed. No samples of threshed straw contained toxic quantities of prussic acid in tests up to early November.

The areas from which samples came had no bearing on the poison content, so there is no way of telling, without analysis, whether the frozen flax is poisonous or not. Although the toxicity is reduced by storage, it is always wise to have frozen flax tested before feeding it, and District Agri-culturists can tell you how to go about it. ✓

Broadleaf Hay Fairly Satisfactory

A COMPARISON between broad-leaf hay and a timothy-clover mixture as roughage for wintering beef steers has been made at the Nappan Experimental Farm, N.S. This showed that broadleaf hay was less efficient for growing steers than the mixture was, although it appeared to be a fairly satisfactory roughage.

C. D. T. Cameron, senior husband-man, says that 16 beef steers had broadleaf hay as their only roughage, and a similar group had the timothy-clover hay mixture. Every animal also received two pounds of meal per day.

The experiment should be of interest to farmers on the Maritime dikelands, where an estimated 28,000 acres of broadleaf hay is grown annually. It is very productive and thrives on the low, poorly drained areas of the dikelands. Because of its late maturity, it can be harvested after the upland hay is past the proper stage of maturity, and this extends the length of the harvest season, without any apparent effect on the quality of the roughage. ✓

Grazing vs. Green-Chopping

CHOPPING forage daily and hauling it to cattle has been shown by some dairy farmers to reduce their acreage of pasture crops by as much as 25 to 30 per cent. But does this method meet year-round feed requirements?

Michigan State University reports that a dairy farmer in the southern part of the state, where he has 120 acres of productive crop land, can produce all the forage and grain needed during the year for 33 Holstein cows and young stock, when the pastures are grazed. If he changed to well-managed chopping and hauling, says the university, he could produce forage for at least three more cows and one replacement heifer.

With milk sales per cow now averaging 9,000 pounds of 3.5 test milk, the milk from the three additional cows would add \$1,036 to his receipts, based on a price of \$3.80 per cwt. Sale of cull cows and calves would add \$90, bringing additional receipts of \$1,126. ✓

This dairy farmer, however, would have to buy grain and protein for the three extra cows and replacements, at an additional cost of \$226. Other miscellaneous expenses, at \$30 per cow, would add \$90, and extra housing for them would cost \$40. Take into account an annual cost of \$350 for the green-chopping system, but a saving of \$75 for the elimination of some cross-fences.

The university staff estimates that the shift from continuous grazing to chopping and hauling would increase net expenses by \$631, and net income by \$495. It is also important to remember that the farmer would have to spend 30 to 90 minutes daily on chopping and hauling. It is concluded that, at present, it is doubtful if green-chopping is profitable unless a dairy farmer has 30 or more cows, and has few conflicts for the use of his labor and equipment during the pasture period. Most will probably gain more by improving their present grazing practices. ✓

Converting Barley into Hogs

THE hog-barley ratio, which is the relation between the market value of hogs and the market value of feed grain, is a way of showing the possible increase in returns when barley is marketed through hogs. It is calculated by dividing the live weight value of 100 pounds of market hog, plus the carcass premium, by the market price of barley. The standard is the price of B1 bacon hogs and No. 1 feed barley.

Using this method, the Brandon Experimental Farm, Man., gives the average relative amounts for the province in 20 years as 19.8 bushels of barley to 100 pounds of live hog, but the present relationship is slightly more favorable to the hog producer.

As an example, the recent quotation for B1 bacon hogs was \$26 per 100 pounds dressed weight, which represents \$19.50 per 100 pounds on a live weight basis. Using 90 cents per bushel as the price of No. 1 feed barley, a hog-barley ratio of 21.7 bushels is obtained. This is slightly above the long-term average and shows a favorable position for the hog producer. ✓

Better Milk From Clean Cows

CLIPPING cows makes it easier to keep them clean and to produce good milk. The dairy department of the University of Illinois makes these recommendations: Clip tail and bob switch to clear ground by four inches, and clip tail head and round base of tail; clip the entire surface of the udder; clip the belly and hocks, making a mark line from navel to thurl on both sides by holding clippers on edge, with the bottom blade toward the cow's head; clip flanks and thighs by running clippers up from the hock to the mark line; clip up the backbone.

This does not eliminate the need to wash the udder and teats thoroughly before putting on the milking machine, so as to produce clean milk and stimulate let-down. ✓



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FIELD



The new rust-resistant Parkland barley (left) showed much less lodging than Montcalm (right) in Brandon Experimental Farm, Manitoba, tests last summer.

Earlier Swathing For Malting Barley

FARMERS can swath their malting barley earlier than they've been doing it, and still obtain maximum crop quality and quantity. According to tests at the Lacombe Experimental Farm, Alberta, in general, there has been a tendency for growers to leave the crop standing too long.

Correct swathing dates are determined by the moisture content of the kernel at swathing time, states Don Dew, Agricultural Engineer at Lacombe. It was found that yield and bushel weight increases rapidly with a decrease in kernel moisture content at swathing, until a moisture content of 45 per cent is reached, then there is no further increase to maturity. Results of a malting analysis showed that top malting quality is obtained if swathing is done when the moisture content of the kernel is about 40 per cent. There is actually a decline in both quantity and quality if the crop is left standing beyond this stage.

In the Lacombe tests, strips of Olli barley were swathed when the kernel moisture content was 56 per cent, and continued each day until moisture content reached 23 per cent. There was found to be a decided increase in quantity and quality of the strips cut in the 45 to 40 per cent range. It was also found that, under favorable drying conditions, barley cut at the 45 per cent moisture level could be threshed six or seven days after swathing, and cut at the 40 per cent level, five or six days after swathing.

Since the electric moisture testers used by elevator agents won't give moisture readings above 30 per cent, some practical way has still to be found to test a crop's moisture content in the field. However, the knowledge that nothing is gained by leaving a malting barley crop standing until it matures should enable growers to begin cutting operations earlier, and thus gain a few precious days. V

Control For Couch Grass

A PROMISING control for couch grass is reported by M. R. Wiancko of the Kapuskasing Experimental Farm, Ont. The chemical is

called Dalapon, and it is a whitish powder which dissolves readily in water.

The cost per pound of Dalapon prohibits its large-scale use for spraying, unless land values are fairly high. But it is recommended for spot treatment to prevent couch grass infestations from spreading. It can be applied at any time after the couch grass growth is well developed until just before heading. Sprayed areas should be plowed one to two weeks after application, and then cultivated frequently for the balance of the season.

Rate of application varies from 15 to 25 pounds acid equivalent per acre, dissolved in 40 to 50 gallons of water. There is danger of injury if crops are planted soon after spraying, but it was found at Kapuskasing that such crops as oats or barley, seeded down to a hay mixture, could be sown safely at four to six weeks after spraying. The danger is less if Dalapon is applied in the fall before sowing the crops. V

Row Crop For the West

IF there is a place or a demand for a row crop in western Canada, then the sunflower will fill that place, according to Dr. E. D. Putt of the Morden Experimental Farm, Man. He claims that there is little doubt that sunflower varieties will emerge from breeding programs which will produce economic yields over all but the more

northerly areas of the prairie provinces.

Sunflowers are attractive to western farmers because they can be planted on land which normally would be replaced by summerfallow, and the crop rotation is extended. They also resist frost and drought, and compete with annual weeds. There is the further point that they reduce the risks of a one-crop economy.

One disadvantage is that this is a late maturing crop, Advance being the only variety to mature safely outside the Red River Valley, and this is susceptible to rust. Some progress is being made in overcoming these objections by breeding. Beacon is a newly developed variety which has rust resistance, and it accounted for 60 per cent of the acreage in 1955. Mennonite, an older variety, has a new-found popularity because its large seed finds a market in the confectionery trade.

The cost of production of sunflowers, and the average return per acre, appear to compare favorably with other crops in western Canada. There is little evidence that it is hard on the land, and regional tests are showing that it may have wide adaptation. V

A Billion Friends or Enemies?

THERE are billions of nematodes to the acre, but they are rarely seen because they are so small, and the only indication that they are there may be when they are harmful to plants. Dr. A. D. Baker of the Science Service Division, Canada Department of Agriculture, says that they are a type of worm, sometimes referred to as eelworms, roundworms or nemas, and they are to be found in oceans, rivers, lakes and streams, in the soil, on plants, or as parasites on animals.

The study of the nematodes which attack plants has been sadly neglected, he says, and plant damage caused by them was attributed formerly to such things as soil deficiencies or insects. But now the science of nematology is being developed. It has been found that not all of the nematodes are harmful, and some may possibly play an important role in soil fertility. There are nematode specialists available now to help farmers when they suspect that their nematodes are doing more harm than good. V



Safe grain storage on farms is not only a question of protection against weather. A fire break, as illustrated here, will reduce another hazard.

FIELD

Soil Management In Smithers District

SOME soils in west central British Columbia are so low in organic matter and available plant food that their ability to produce crops at an economic level will deteriorate rapidly, unless recommended practices are followed.

R. Ashford of the Smithers Experimental Farm says that sound crop rotations, the use of commercial fertilizers with high nitrogen and phosphate content, and the regular application of barnyard manure are essential for satisfactory crop yields.

Recommendations for rotations, fertilizers and soil management generally have been worked out, and can be obtained from the Experimental Farm or the local provincial agricultural offices in the region. ✓

Controlling Insects with Disease

DESTRUCTIVE insect pests in Canada may have met their match in certain virus diseases. So far, according to Dr. F. T. Bird of Insect Pathology Laboratory at Sault Ste. Marie, Ont., there has been some success in controlling these pests, and there is undoubtedly a future in it.

The principle is that the virus is contained in crystal-like bodies, and when swallowed by a healthy insect, the crystals dissolve in its stomach juices and the virus particles are released. In the larvae of most moths and butterflies the virus organisms pass through the stomach wall and attack blood, fat and other cells. In the larvae of sawflies, the virus attacks the cells of the stomach wall and thus kills the insect.

If larvae are infected late in their development, they may survive and become adults, in which case the virus is transmitted through the eggs of the adult and many of the young will die. In other words, an epidemic is started. Foliage contaminated during the growing season is the usual source of infection. ✓

The Right Kind of Packer

THE results of two years of testing at the Lacombe Experimental Farm, Alberta, show that reduced grain yields and delayed crop maturity can result from using the wrong combination of seeder and packer. The three methods of seeding tested were a disker, a double disk drill, and a press drill (the press drill was used as a control to gauge the performance of the other two).

The disker and double disk drill were tested in turn with a disk packer, a coil-type packer, and an ordinary crowfoot packer. While the type of packer used behind the double disk drill didn't seem to make any difference, it was found that the combination of a disker and a disk packer reduced crop yields an average of eight bushels per acre on black loam soils. If seeding with a disker, farmers should use either a coil type or a crowfoot packer. ✓

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ASSETS

Cash resources.....	\$154,242,676
Securities and call loans.....	217,766,571
Total quick assets.....	\$372,009,247
Loans.....	442,847,559
N.H.A. mortgages.....	28,893,283
Bank premises.....	9,692,733
Letters of credit and other assets.....	13,962,038
	<u>\$867,404,860</u>

LIABILITIES

Deposits.....	\$810,107,757
Letters of credit and other liabilities.....	16,330,855
Total liabilities to the public.....	\$826,438,612
Capital, rest and undivided profits.....	40,966,248
	<u>\$867,404,860</u>

STATEMENT OF EARNINGS

Profits after making transfers to inner reserves..	\$ 4,966,378
Income taxes.....	2,290,000
	<u>\$ 2,676,378</u>
Dividends.....	1,861,925
	<u>\$ 814,453</u>
Undivided profits brought forward.....	2,151,795
	<u>\$ 2,966,248</u>
Transfer to rest account.....	2,200,000
Balance of undivided profits.....	<u>\$ 766,248</u>

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HORTICULTURE



These impressive cucumbers, grown on the Experimental Farm, Ft. Vermilion, Alberta, illustrate the northward movement of potential agricultural production.

Controlled Fruit Storage

IN the Okanagan Valley area of B.C., the most recent survey of apple varieties indicates 400,000 Delicious trees, 294,000 McIntosh, 113,000 Winesap, 72,000 Newtown, and 50,000 trees, or less, of all other varieties. Successful marketing of the apple crop under such conditions, becomes a matter of nice adjustment of supply to demand, with a view to disposing of each grade, of each variety, to best advantage.

The normal marketing season of McIntosh comes earlier than those of Delicious, Newtown and Winesap. Cee Grade Delicious has, however, become a serious problem on the retail market; but a processing outlet has been difficult to obtain, because Delicious has been undesirable as a processing fruit, because of its shape, large core and rather sickly sweet juice. Fortunately, in this respect, the Summerland Experimental Farm reports experiments which suggest that Delicious may prove suitable for use in a fermented cider.

Another important aspect of fresh fruit marketing is the ability of growers' organizations, such as B.C. Tree Fruits Limited, to control storage periods for individual varieties so as to adjust shipments more closely to market demands. Storage in ordinary air at 32 degrees F., for extended periods, often leads to low-temperature disorders, such as core flush. Recently, in eastern Canada and the United States, controlled-atmosphere storages have been coming into use, in which the oxygen and the carbon-dioxide content of the atmosphere is regulated, the former by controlled ventilation, and the latter by pumping air from the storage chamber through a solution of sodium hydroxide, and back to the storage chamber again after purification. It was found at Summerland last year, that a month or two could be added to the acceptable storage life of McIntosh apples by this method, while at the same time, providing excellent control of core flush.

Taken out of storage on March 19, for comparison with similar fruit stored in air at 32 degrees F., the controlled-storage fruit, after a week, was rated as good, or better in flavor than the air-stored fruit. It was attractive, and free of core flush, while the air-stored fruit showed considerable of this disorder. After storing

both lots for ten days at 70 degrees F., no difference in firmness of the fruit was found. It was concluded that controlled storage in this experiment extended the shelf life of McIntosh in retail stores by a week or ten days.

Knowledge that this can be done, puts an additional tool into the hands of the market specialists, who must determine when to use it, if at all. V

New Wrinkles For Storing Grapes

MARKET research specialists of the U.S.D.A. in California, can now predict fairly closely the amount of decay that will develop in grapes during the storage period. The experience reported was with Emperor grapes marketed by a California co-operative association. These grapes are largely marketed during the winter and early spring, and keeping qualities, therefore, are very important.

By placing a representative sample of a given lot of grapes in a humid, sterile container, at room temperature, they found that the quantity of moldy berries which developed after ten days, accurately indicated the relative keeping qualities of the grapes from which the different samples were taken, and which were in cold storage. Decay, it was reported, is caused primarily by infections occurring before harvest. Fumigation kills only the fungus spores on the surface. Infection from fungi entering the berries, develops in storage and after fumigation. By this method, separate lots of fruit in cold storage can be marketed in the order of greatest likelihood of loss through decay. To some extent, this forecasting method is still in the developmental stage. V

Check Your Storage Vegetables

IF you have any vegetables in winter storage it is a good idea to look them over fairly frequently. Most farmers and home gardeners will have some vegetables put away for the winter, but sometimes the loss is fairly heavy. Often it is because the vegetables are not sound when put into storage.

If the vegetables are wilting, sprinkle the floor of the storage room, or moisten sand in which root vegetables are bedded. Discard anything that has begun to rot. V

THE MAGIC OF PLANT BREEDING

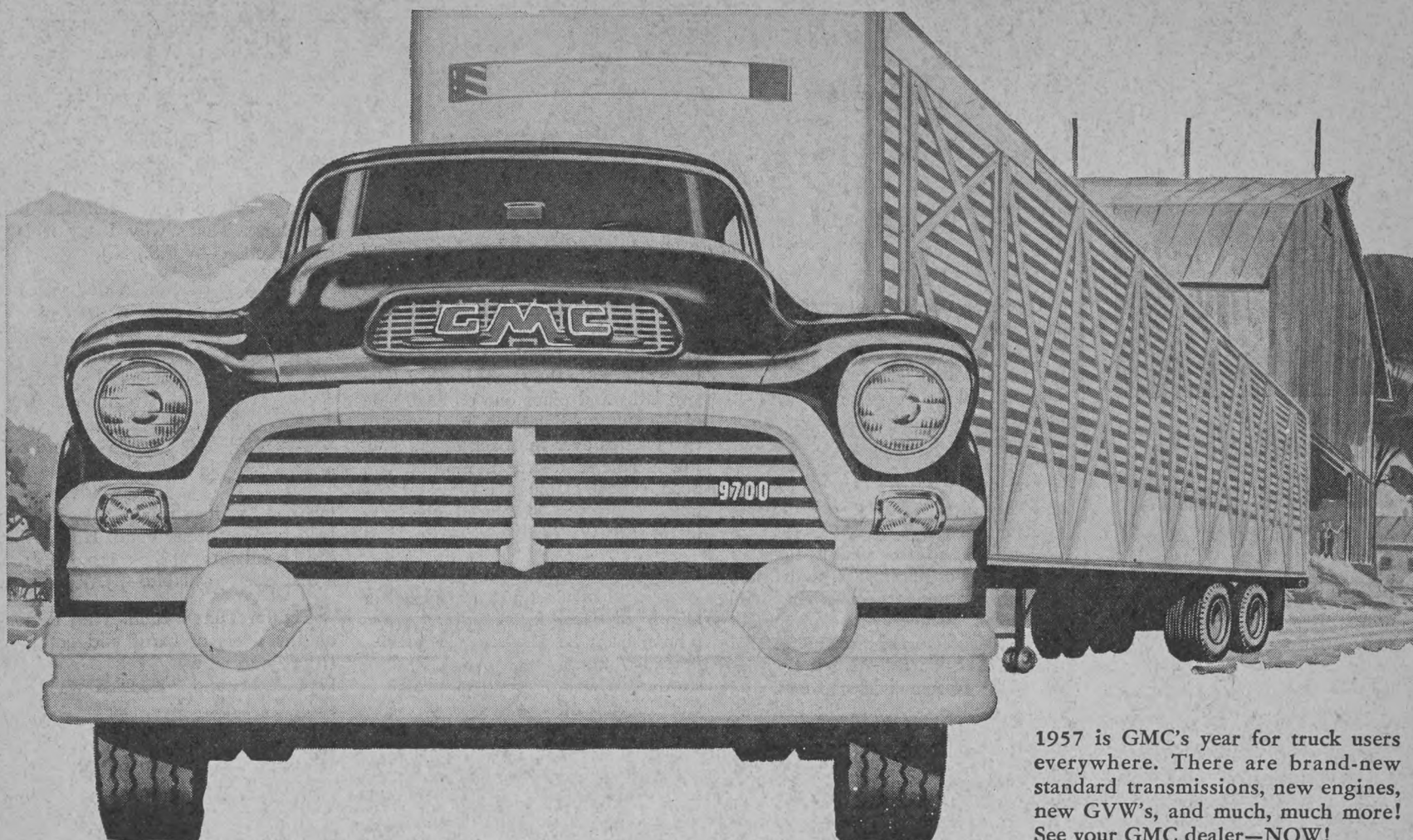
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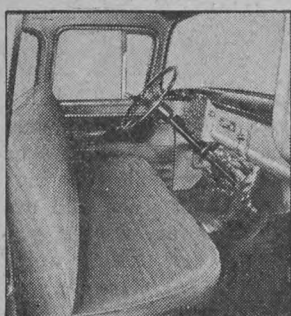
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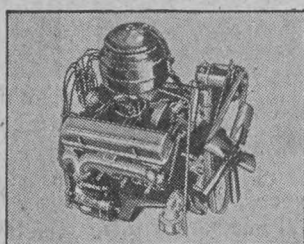
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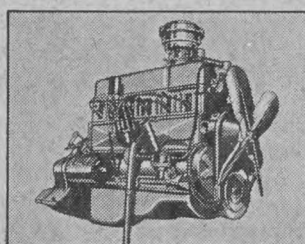
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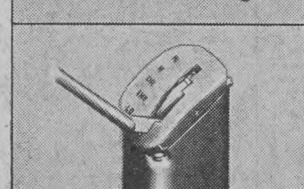
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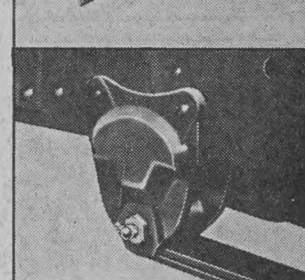
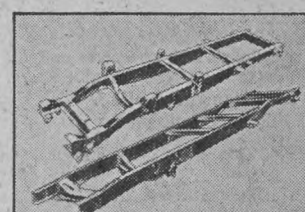
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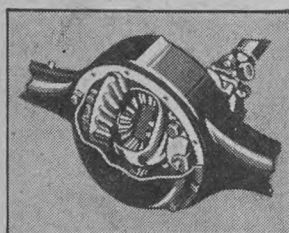


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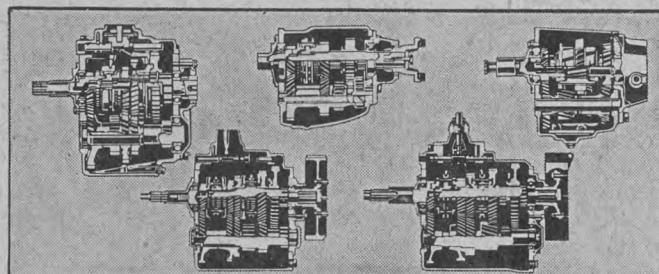


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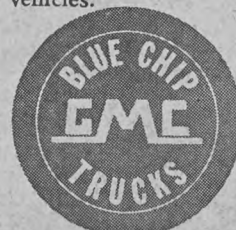
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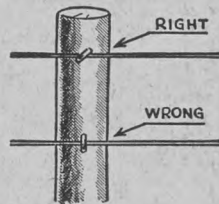
How Other Farmers Do It

A little ingenuity and a very low cost enable you to do these jobs on the farm

One-Man Chalk Snapper. One man can easily mark long sections single-handed with this chalk line snapper. All you need is two one-foot lengths of 1 x 8, a short length of 2 x 4, and a common, spring-type clothespin; nail the boards together at an angle of about 60°, and fasten the 2 x 4 between them as shown in the sketch. Nail only one section of the clothespin to the projecting 2 x 4 as indicated. To use it, first tie your chalk line to a nail at one end, and then place the device at the half-way mark, approximately where you want the line to strike. Slip the line between the jaws of the clothespin and walk with it to the far end. Place your line down on your second mark, and gradually pull it tight. The tension will cause the line to slip out of the jaws of the pin, and it will snap automatically.—H.E.F., Texas. ✓



Stapling Fence. There's a right and wrong way of driving staples into a post to hold fence wire. Fence staples should never be driven into the post straight up and down, because this splits the wood and the staples lose their hold. Drive the staples in across the wire on an angle (as shown in the illustration), also place the flattened part of the staple next to the wire, as this clenches the staple in the post.—G.C.R., Alta. ✓



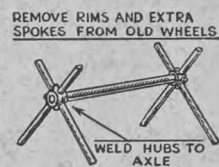
Safety while baling. Many people, at haying time, like to trail a wagon behind the baler. If you nail an old rubber mat, or a split truck tube, on the platform where you stand to catch the bales on the wagon, you will not slip there and may avoid injury.—A.C.B., Sask. ✓

Scrap Wood in Cistern. If you can't snare a piece of wood with a rope to remove it from a cistern, here is a way to impale it. Attach a long string to the handle of an awl by means of a screw eye turned into the wooden head of the awl. Lower the awl into the cistern until its point is resting on top of the wood, then a short pipe nipple, slipped over the string, should be allowed to drop down and strike the head of the awl. I have found that this impales the wood on the awl, and it is easy to lift it out.—H.M., Fla. ✓



Making mortises. I find this idea handy when I'm making a ladder, or anything that requires several mortises of exactly the same depth. I take two laths and place one on each side of the saw, holding them in place with two clamps over the back of the saw. For whatever depth of mortice you need, set the clamps the required distance from the points of the saw teeth.—F.E.W., Man. ✓

Sturdy sawbuck. Two implement wheels, connected with an axle or length of steel pipe, can be made into a sturdy sawbuck. Cut the rims off the wheels, leaving four spokes on each wheel. Weld the axle or pipe to the hubs of the wheels to make the sawbuck rigid, and then it is ready for use.—G.M.E., Alta. ✓



Using a wrench. Many people have slipped a gas pipe over the handle of a wrench to make it longer, but it is not a good practice. Wrenches for small nuts are short, for medium nuts

they are of medium length, and so on. The manufacturers, in deciding on length, have considered the pitch of the thread, the cross-section of the bolt, and the strength of the average man. By ignoring this system, and increasing the length of the wrench, I have actually stretched bolts until they have broken in two, or have had to stop as soon as I felt the bolt stretching. That's why I say it is a bad practice.—W.F.S., N.J. ✓

Non-tip Feed Pan. A dog will not tip its feeding pan, if the pan is anchored with a croquet arch and a rubber band cut from an inner tube. A one-pound coffee can provides the ideal feeding pan, as its straight sides can be held by the rubber band. Heavy wire can be substituted for a croquet arch, if that is not available.—J.J.W., Alta. ✓



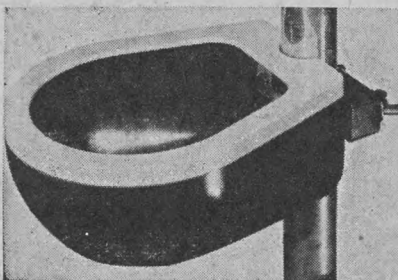
Tighter Turn Button. Turn buttons on the doors of barns and outbuildings can be kept tight and snug by sliding a short, stiff spring over the nail (or holding screw) between washers, and then driving the nail or screw in until there is enough pressure. Spring-loaded like this, tension can be maintained from time to time by turning the screw or driving the nail down a little to compress the spring.—S.C., Fla. ✓



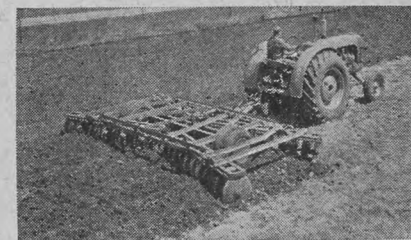
WHAT'S NEW



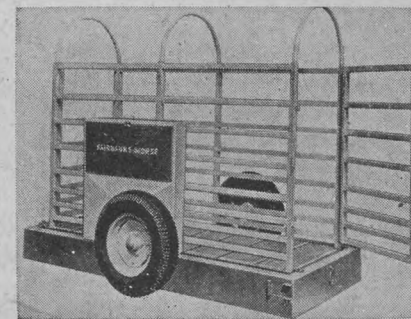
Described as an all-purpose vehicle with a high road speed, the Unimog tractor has front and rear power lifts, a loading platform, a winch, and removable cab. It is said to pull, push or carry all farm implements, and can carry a ton of seed or fertilizer. (Mercedes-Benz of Canada Ltd.) (150) ✓



This feeding bowl for salt bricks or blocks is made of Permelite, which is claimed to be chip-proof, non-rusting and rugged. The fittings on the bowl are made of rust-proof bronze and stainless steel, and it can be mounted either on stanchions or walls. (Morton Salt Company) (151) ✓



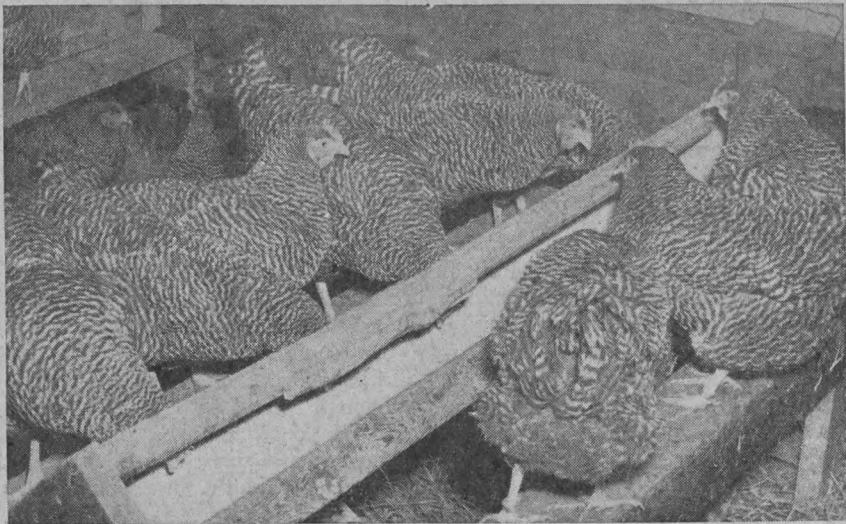
With more than a ton and a half of working weight, this 16-foot, wheel-type, disk harrow is said to have unusual cutting ability while covering a lot of ground. Outer disks fold over the inner gangs for easy storage, passing through gates, or adding weight for a 10-foot cut. (J. I. Case Co.) (152) ✓



This portable livestock scale can be taken into pastures or pens. The bull pen design is claimed to keep a large animal, such as a steer, from moving while being weighed. Several hogs, sheep or calves can be weighed in it simultaneously. (The Canadian Fairbanks-Morse Co. Ltd.) (153) ✓

For further information about any item mentioned in this column write to WHAT'S NEW Department, The Country Guide, 290 Vaughan Street, Winnipeg 2, giving the key number shown at the end of each item, as—(17).

POULTRY



Don't make poultry fight for their feed. Each bird should have a minimum of three inches at the feeder, or some of them will not get their share.

Mix Laying Ration Carefully

THE Brandon Experimental Farm, Man., has found that soybean oil meal, although it has a high protein value, should not be used as the only protein supplement in a laying ration. Two or more sources of protein are essential to give the right type of protein, or in technical language, the proper balance of amino acids.

In a study of protein requirements for laying hens, it was also found that the protein quantity should not be less than 15 per cent. When the type of protein was satisfactory, and the rations were complete in all other nutrients, rations containing only 13 per cent protein failed to maintain body weight and a satisfactory rate of production. The same relationship is true for other nutrients.

The modern balanced feed is usually a mixture of home-grown grains with commercial concentrates or balancers, and the thing to remember is that all concentrates do not have the same amounts of vitamin, protein and mineral materials. So when you are mixing a concentrate with home-grown grain, be sure to follow the manufacturer's directions carefully.

Records Help Poultry Production

WHETHER your flock is large and is a major source of income on your farm, or whether it is only a minor enterprise, you stand to benefit by keeping a good set of records. F. E. Payne, poultry commissioner with the Saskatchewan Department of Agriculture, says that at the end of the year you will find important information on profit or loss in your daily records, as well as the return per hour of labor, production costs, mortality, and other useful items. Compare these figures with other poultry enterprises, and you have the basis for finding the weak spots in your own business.

Records can be started at any time, but the best time is when an inventory can be taken most easily, which is usually in the fall, after pullets are taken into the laying flock.

Poultry account book and henhouse record cards are supplied free to poultry producers in Saskatchewan, if

they apply to the Poultry Division, Animal Industry Branch, Department of Agriculture, Regina. Where a group of producers in an area undertake to keep accounts, a member of the poultry division will visit them periodically to help with their problems.

Pullets Will Balance Their Ration

DO not try to hold pullets back, but give them a full ration of grain and pullet or growing mash and they will balance their own ration, says R. H. McMillan, poultry commissioner for Alberta. The consumption of mash will go up during the molting period, and after that the grain will be taken more readily, helping to make up any loss of weight.

The number of days between hatching and sexual maturity is determined by breeding more than feeding, and a good strong pullet should be ready before it is due to come into production. Some birds produce at 4½ to seven months of age, but most do not lay before they are five or 5½ months old, the latter being the ideal age for Leghorns and production-bred American breeds.

Starving the pullets to stop some of them laying at 4½ months of age will only turn good pullets into runts. If, on the other hand, pullets have been raised on full feed, and do not lay before seven months of age, they should be killed off.

Septic Tank For Poultry Disposal

DEAD birds on a broiler farm present a real sanitation problem, because it is certain they do not die of old age.

University of Connecticut researchers have designed a heated septic tank to destroy dead poultry. It is an ordinary septic tank, insulated, and with a high water level maintained. Heat is furnished by a soil heating cable, and also by hot water. They have found that at 100° F., poultry tissue is destroyed in five days. Recently a septic tank was cleaned that had decomposed 3,000 pounds of poultry in a year. Only a layer of sludge remained on the surface of the water.



If you're handy with your hands, you can easily learn to do your own welding and save yourself the high cost of idle equipment waiting to be repaired. Without spending more than you would for a good washing machine or refrigerator, you, too, can own and profitably operate L.A. Welding and Cutting Equipment. More and more farmers are finding out that it definitely pays to do their own welding of broken machinery parts. Even broken axles can be repaired and put back into service as good as new . . . You can probably name many other repair jobs on which you could use welding and cutting—and don't overlook the dozens of things around a farm you could make by these methods.

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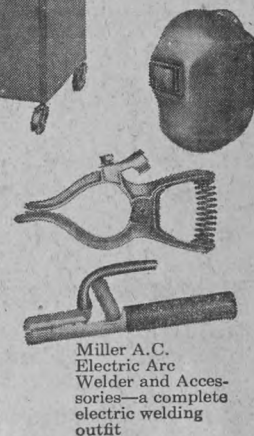
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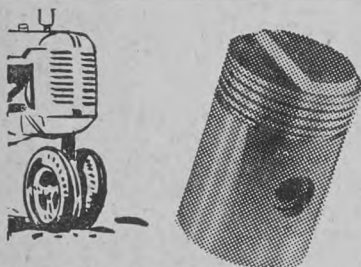
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Young People

On the farm and at home

National 4-H Club Week



A TOUR of the biggest indoor agricultural fair in the world—a glimpse of floodlit Niagara Falls shining in the dark night—a visit to a turkey farm that will raise, kill, dress and sell 93,000 birds this year—a look at a mushroom plant where the shiny white buttons fresh from their dark growth barns are washed and packed into half a dozen products—and a visit to the nation's capital: it was all part of a whirlwind week for 125 carefully selected Canadian 4-H Club members, from every province but Newfoundland. Next year, Canada's tenth province, too, hopes to have delegates ready for 4-H week.

Despite the absence of competitions (the big judging contests that have featured 4-H club week at the Royal Agricultural Winter Fair since their inception nearly 25 years ago, were abandoned this year), there was no lack of excitement for the young travellers.

It was "Oh, look at these kitchens," when the girls visited the Building Center in Toronto. Those built-in ranges and refrigerators on display, the steel cupboards and abundant shelf space, making their long-held dreams seem more real, gave the girls new ideas and enthusiasm for streamlining kitchen chores in farm and city homes.

Glenda Newson of Pugwash River, Nova Scotia, liked the pine-panelled sitting room, with matching furniture. Vicki Feistman of Chilliwack, B.C.,



Vicki Feistman, Chilliwack, B.C.; Gayle McLachlan, Winnipeg, Man.; Anna Sebzda, St. Albert, Alta., examine the built-in range at the Building Center.

and Anna Sebzda of St. Albert, Alberta, paused long to admire the big brick fireplace, ornamented with copper and ivory knickknacks.

The girls gave free reign to their active imaginations on tours like this. As community leaders and housewives of the future, they will be influential in farm areas across the country in the coming years.

For the boys, there was time to browse through the cattle barn to see the best livestock from across the continent. They had opportunities to discuss with owners of these cattle, and

with farm leaders representing many branches of agriculture, their hopes and problems and rewards as farmers.

"Agriculture has changed more in the last ten years in Canada, than it did in the previous 50 years," Dr. H. L. Patterson of the Ontario Department of Agriculture told them.

That thought was vividly illustrated when they visited Leaver turkey farm. For there, a single farm



Rose Marie Flock, Tisdale, Sask.; Katherine Touer, Grand Falls, N.B.; Glenda Newson, Pugwash River, N.S., admire the built-in refrigerator.

produced 93,000 turkeys this year. In 1951, it began with only 2,400 birds.

All on the one farm, birds are hatched, raised, killed, eviscerated on a line handling 200 birds per hour, and frozen and stored in a deep freeze big enough to handle 50,000 birds.

They learned, too, that the mammoth turkey farm was only a sideline. Mushrooms are the main interest of George and L. H. Leaver. The 4-H visitors saw the processing plant where the mushrooms are washed, and canned as half-a-dozen products like whole mushrooms, sliced mushrooms, fancy buttons, stems and pieces, and creamed-sliced, ready for sale to just about every Canadian province.

The group also visited one of the huge automobile assembly plants in the Toronto area and rounded out their program with discussions designed to stimulate their thoughts, and broaden their outlook on national and world horizons.

They listened to optimistic predictions of the opportunities for young people today: "... boundless in the field of home economics," said Miss Helen McKercher of the Ontario Department of Agriculture, "whether you want to be a dietitian, a research worker or a teacher; whether you feel that press, radio or television offers you a future; or whether you want to be a homemaker."

While citizenship is the main purpose of 4-H training, leaders hope that members will be educated to better citizenship and that many of them will remain on the farm. With this in mind, Dr. Patterson foresaw an ever greater demand for food in Canada.

In all, it was an exciting and rewarding week for the luckiest, the hardest working, the most devoted of Canada's 73,000 4-H'ers.

Adventures Unlimited

WOULD you like a front seat at Madison Square Gardens when Toronto Maple Leafs play New York Rangers? Have you attended the International Plowing Match? Do you know how to make a complete puppet show? Have you visited an oyster farmer?

Through the magic of films you can travel around the world and share hundreds of these exciting adventures. Your community can have regular film showings made available by the National Film Board in the capital city of your province. Yes, a little organizational work is needed to get the plan working but you'll have many enthusiastic helpers for this project. Mr. W. G. Lee, Manager of the National Film Board office in Winnipeg, outlined for us how any district can obtain such a program.

If you know that a film council is operating in your area, especially if it is on the same rail or bus line, all that is necessary is to contact the custodian of that film council. The custodian (usually he's the postmaster, agricultural representative, or school principal) makes up the schedule of film showings, has charge of equipment and makes arrangements for new districts to join. He will tell you the date when a film program will reach you and when and where to send it after a showing. You may receive eight film programs, one each month from October to May inclusive. Each program runs for an hour or more and discussion notes and a poster for announcing the film showing are included. Districts may apply to join film councils at any time of the year but in order to receive the full year's program they should notify the custodian before October.

You may not know of any film council which is near enough to include your district. In that case you should write the Manager, National Film Board, in the capital city of your province, and he will advise you of a film council which you may join. If there is no film council that could include your area he will send a representative to your district to help form one. At a public meeting of all interested in the plan, a president, vice-president and custodian are elected. A constitution is drawn up and members decide what fee will be charged to other districts who may wish to join the film council.

The Film Board trains several people in an area on how to operate a projector and care for films. It is their practice to loan projector and screen to councils for their first year but the council is expected to make plans to buy their own equipment after that time.

If film councils wish to have more than one film showing each month they can procure reels from public libraries, universities and business organizations. Write and ask for a copy of their film catalogue and then make your choice. A small rental fee is charged on some films, others are sent free of charge.

We cannot all travel around the world to watch thrilling events in distant places but films can bring us entertainment, information and adventures unlimited.

Science And the Farm

Turkeys from unfertilized eggs, a new antibiotic and animal survival in cold

A turkey poult hatched recently from an unfertilized egg, was the first baby turkey to hatch and live for more than a few hours. It weighed slightly more than one ounce, at hatching, which was 30 to 40 per cent less than normal. Parthenogenesis was discovered four years ago in turkey eggs. Since then, more than 13,000 infertile eggs have been placed under incubation by Dr. M. W. Olson of the U.S.D.A. Research Center at Beltsville, Maryland. From this number a large number of embryos formed. Some developed to final stages before dying in the shell, and only four have pipped their shells and hatched alive. One lived five hours, another eight hours, a third 18 hours and the one referred to here was alive after 20 days.

The state entomologist of Minnesota testified recently that scientists could now consider the eradication of certain insect pests. He was referring specifically to the gypsy moth, formerly confined to the northeastern part of the continent, but which has now broken bonds to infest an area 30 per cent larger, in New York, New Jersey, and Pennsylvania. The entomologist urged an appropriation of \$1.5 million for control work last spring, and predicted that before many years, unless adequate action is taken now, \$1.5 billion would be required.

Viruses are so tiny that they cannot be seen, except dimly and only through an electronic microscope. Scientists have long wondered how they spread from cell to cell, and now know that they do so by exploding the cell, which spills out the viruses, to invade other cells. California scientists have found that the virus-infected cells contained a new enzyme which they called virolysin, the formation of which is stimulated by the virus, and when sufficiently developed explodes the cells.

A new antibiotic called filipin has been discovered in the soil of the Philippine Islands. It is effective against 13 different fungi causing disease in the human body, and in addition,

attacks many other fungi which destroy food crops.

Netherland butter makers solved a butter surplus problem by freezing the cream and making butter from it as the market required it, instead of making the butter and putting it into cold storage. Twelve dairies made the experiment and found that butter from frozen cream tastes like fresh butter,

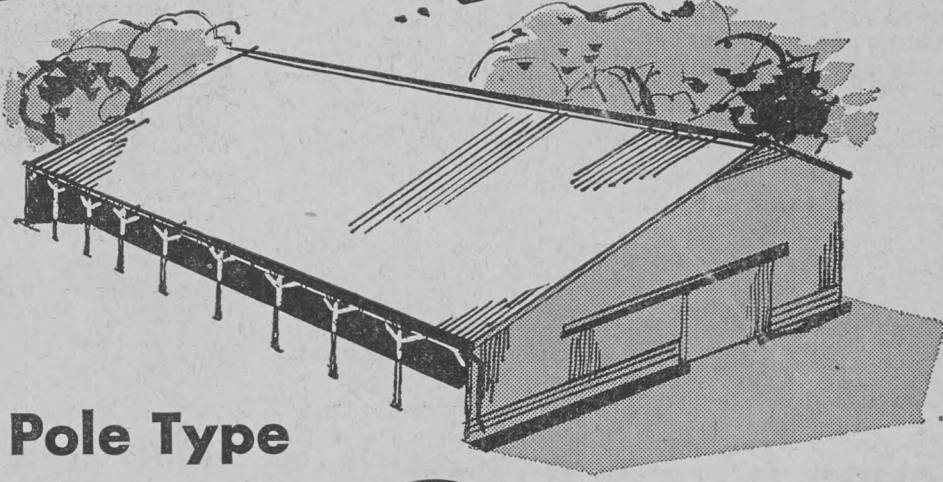
but has a higher vitamin A content and is easier to spread.

Edgar S. McFadden, agronomist at the Texas A & M College, was recently awarded the John Scott Medal at the meeting of the American Association for the Advancement of Science, for having originated and developed the first rust-resistant bread wheat, in 1915. It was said at the AAAS meeting that, thanks to this discovery, 25 million people are eating today who would otherwise have died or be dying of starvation. McFadden thus joins Thomas Edison, Madame Curie, Dr. Vannevar Bush and Sir Alexander Fleming, all of whom have been recipients of the medal established by John Scott, a

chemist of Edinburgh, Scotland, under the terms of his will in 1816.

Sheep are sometimes lost in severe blizzards and buried under several feet of snow, where they cannot be located. At Birmingham, England, electronic equipment which will amplify the sound of a sheep's heart beat into a headphone, even when the animal is under several feet of icebound snow, is being developed for use by Highland farmers whose sheep are sometimes lost in winter snowdrifts. Apropos of such losses, an 18-year-old dog belonging to a farmer at Druid, Saskatchewan, was reported lost in the December, 1955, blizzard. He was not found before 37 days and then in a large snowdrift near the barn, after having lost 45 pounds.

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Gully Becomes a Grassed Waterway

Story with Pictures

by RICHARD COBB

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A GULLY measuring 20 feet deep by 20 feet wide, and 1,200 feet long, split a sloping field on the farm of Marcel Cabernal at Bruxelles, Manitoba. He had done a good job in stabilizing the watershed and some major tributaries of the gully by allowing hay to grow for two years, and then plowing it in, and also by smoothing out the gullies and seeding them with grass and alfalfa. He had that part of it under control, but the big gully was too much for him.

Run-off water had caused the gully over a period of about 20 years, and for some time the Soils and Crops Branch, Manitoba Department of Agriculture had been watching the situation. They advised Mr. Cabernal through the local soil conservation club, and admired the way he went about his task. Then this year, partly as a demonstration, and partly to find out the cost of a job of that size, and whether it could be done successfully, they decided to tackle the gully for him.

With the co-operation of a Winnipeg equipment company, they brought

in a grader, bulldozers and a sheep-foot packer. Topsoil was removed from the edge of the gully, to avoid burying it when the sides of the gully were pushed down, and gradually the bulldozers smoothed out a shallow waterway. The sheep-foot packer, disk and cultivator followed, and within two days of beginning the work, the new waterway was complete, and seeded with brome, meadow fescue, alfalfa, alsike clover and fall rye to stabilize it.

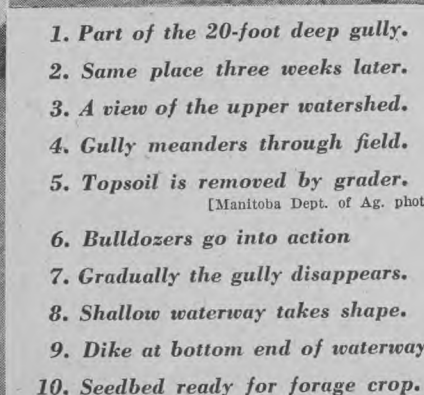
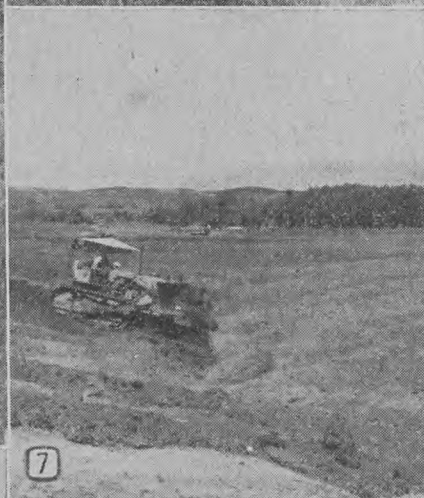
It will be some time before the result can be assessed. There will be some subsidence, and the waterway has yet to experience a heavy run-off. However, when The Country Guide visited the scene again three weeks later, there was already a good growth on the waterway, and it looked as if there was hope for the Cabernal field.

No less than half a million acres of farm land in Manitoba are subject to critical water erosion, and about 75 per cent of the total acreage in the province is threatened by some erosion. To grapple with this tremendous problem, the Soils and Crops

Branch has organized 51 soil conservation clubs, offering guidance to members in solving their erosion problems, and encouraging them to work together toward a solution.

It may be that the job done by the soils and crops men on the Cabernal farm, although an exceptional one, will provide an incentive for others to tackle their own smaller gullies more confidently. v

Step by Step



1. Part of the 20-foot deep gully.
2. Same place three weeks later.
3. A view of the upper watershed.
4. Gully meanders through field.
5. Topsoil is removed by grader.
[Manitoba Dept. of Ag. photo]
6. Bulldozers go into action
7. Gradually the gully disappears.
8. Shallow waterway takes shape.
9. Dike at bottom end of waterway.
10. Seedbed ready for forage crop.

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South African Farm Family

Continued from page 15

It was only when he became tenant instead of manager that Pieter felt free to put his ideas to the test.

The farm, "Boomplass" (Tree Farm) was 800 morgen in extent, or about 1,700 acres, which, in the South African context, is not unduly big. On it Mr. Eksteen produced maize and thought himself a good farmer to get a yield of seven and a half bags or 203 pounds a morgen (roughly three and three-quarter bags an acre). Because of the war, fertilizers were hard to come by, and Mr. Eksteen was dismayed to find that his soil, a rich, sandy loam, was becoming more and more impoverished every year.

By 1948 he had managed to save enough to buy a further 200 morgen, not so much because he wanted more land, as because the new acquisition enabled him to organize his farm more efficiently.

Tractors and fertilizers were once again to be bought, the weather for a few seasons was favorable—and Mr. Eksteen's maize harvests proved profitable. When the opportunity occurred, he bought Boomplass from his father.

He had, with the aid of mechanization and artificial fertilizers, stepped up his yield to 22 bags a morgen, but the continuing deterioration of his soil and its structure was giving him nightmares.

The displacement of the draft ox by the tractor was also worrying him. Throughout the grain producing area, farmers were eliminating oxen, until, on some farms, there was hardly any livestock.

The post-war years, the growth of the new Free State goldfields, and the amazing industrial expansion of South Africa, coincided with this development and soon the Union was in the throes of acute and recurrent meat shortages. Beef was sometimes unprocureable for months at a time in the big cities.

THE one valid objection to grass lies, up to that time, was that they would take valuable arable land out of production for some years. But the insatiable demand for beef would eliminate that objection, if steers could be fattened while the grass "doctored" the soil, Pieter Eksteen argued. He at once began to hunt for suitable grasses, visiting agricultural research stations up and down the land, trying first this grass and then that. None was completely satisfactory, but all did one important thing for him: he found that where he had grown grass for a couple of seasons before again planting maize, his yields shot up.

He planted lucerne (alfalfa) under dryland conditions, having no water for irrigation, and found that his land's carrying capacity was much greater than under natural grasses. He tried Napier fodder and Columbus grass (*Sorghum alinum*), but eventually had to reject them. And then, at one research station, the experts suggested that he should try *Eragrostis curvula*, an indigenous African grass with a vigorous habit of growth, reasonably drought-resistant and hav-

ing a high protein content. It did not look like a good grass for cattle, so Mr. Eksteen was reluctant to try it, but he was persuaded to do so—and his search ended then and there.

The grass thrived on his farm, his cattle became sleek and there was so much feed that he could make all the hay he required to carry his animals through the cold, dry winter, without loss of condition. What was more, his maize yields jumped from about 20 bags a morgen to 35 on lands that had been under *Eragrostis* for a couple of seasons.

He found, having regard to the high costs of maize production, that steers were very profitable indeed. Marketed off his grasses and maize and cowpea supplements, they were giving returns of £25 and more at the age of 11 months. So, more and more of Boomplass went under grass. Hearing of hairy vetch, Mr. Eksteen imported seed from the United States and today most of his wide acres are under *Eragrostis*, vetches and cowpeas.

He grows some hybrid seed maize for the South African Government and enough other maize to put through his cattle. His new system of farming has rapidly restored the structure and fertility of the soil and he is now running four cows and their calves to a morgen a year—a fantastic feat in this part of the Union, where, on natural veld, one morgen is barely adequate for one animal. Today Mr. Eksteen's farm is divided into 16 camps for rotational grazing, and droughts and winters hold no terrors for him, for he has vast stores of fodder.

HE thinks today in terms of calves, —rather than of bags of maize—, to the morgen; and more and more other farmers are beginning to think like him. That is why I called him, at the start of this article, a happy man. He is revolutionizing farming in one of the most productive areas in South Africa. Every year between 1,000 and 2,000 farmers visit Boomplass to see for themselves how grass has regenerated the land and how the reintroduction of animals is leading to sound farming—and profits. Hardly a visitor leaves unconvinced, and today grass farming is spreading rapidly all over the Highveld. The day is seen not to be far off when South Africa will become an exporter of prime beef to the world's markets, instead of an area of perennial meat shortages. It will be a proud day for Pieter Eksteen.

He has been helped in his work by his wife, Isabella Susanna, who is liable to apologize, when you visit the homestead, for its lack of amenities and modern conveniences, by smiling wryly at Piet, and saying, "Every time I ask him to build us a modern homestead, he says that we must first build more fences, or fodder stores, or buy more power heads and piping for new boreholes."

But you can see that she is with him all the way—and so are the children, Isabella (called Sybil by the family) who is a high school pupil, aged 16; Hendrik, 11, at primary school, and little Wilhelmina, aged six. They are quite liable to burst into their parents' conversation carrying a haulm of grass that has struck them as unusual, to ask their father whether

he had seen it before. Like him, they hope that one day they will find a new hybrid or a new variety that is even better than the *Eragrostis* which grows to a height of three feet, gives Mr. Eksteen a return of £200 a morgen for its seed, now widely in demand, and which also feeds his steers.

THE garden at Boomplass is a joy, abounding with roses, grape-vines and shrubs aglow with color. The little, modest home with its small stoep, its whitewashed walls and papered interiors, exudes a tranquility that proclaims it to be the abode of a happy, contented family who know that they are doing worthwhile work.

Not far off is a big dam which Mr. Eksteen has turned into a nature conservancy. There, at dusk and at dawn the air resounds to the call of thousands of wild birds and waterfowl. Willow fringed, this dam is Mr. Eksteen's real pride and joy—and the foundation of his hobby—cinematography. Here he spends much time with his movie camera, catching in color the fascination of bird life and the beauties of dawn and sunset.

Once or twice a year the whole family boards their station wagon and, overnight, in undulled excitement, journeys 400 miles to South Africa's famed Kruger National Park. There, for three weeks, and sometimes taking the most outrageous risks, Mr. Eksteen indulges himself in movie-making: "shooting" lions and leopards at their kills; enormous, suspicious elephants casually knocking down substantial trees as they forage; the ungainly yet beautiful giraffe nibbling daintily at a treetop; the audacious baboons disporting themselves on the rocks, or a hippo wallowing lazily in a pool.

After showing me several thousand feet of such films which held me spellbound for two hours, Mr. Eksteen made a confession. "I love my farm," he said, "but if my wife were willing, I would sell up tomorrow and take a job as a game ranger, if only they would take me on. They need not even pay me any salary. That is the life for me."

Dryly came his wife's retort: "You are too old, my dear."

Piet, at 44, sadly agreed that he probably was.

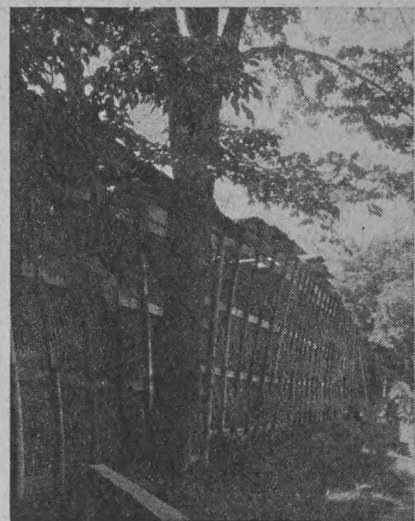
(Note: G. J. Van Zyl is assistant editor, *Farmer's Weekly*, South Africa.—ed.).

He Just Grows Corn

FROM one point of view, Sam Newell, Millgrove, Ontario, threw the rule book out the window when he started growing corn. He has a field that has grown corn every year for the past 13 years. He doesn't have a single head of livestock on the place. There is no crop rotation. He just grows corn; and this year's crop is just as good, if not better, than the first one. He grows 150 acres of the crop, figures on about 70 bushels to the acre average, and doesn't regret for a minute some of the uncommon ideas he has put to use.

Actually, his program is not so far from the book either. He has been working closely with the Soils Depart-

ment, O.A.C., and, generally speaking, tailors his own program to their recommendations. As Prof. N. J. Thomas points out, his program is a sound one. In fact, the soils specialist can name



[Guide photo]
A glimpse of Sam Newell's two huge corn cribs, each of them 200 feet long.

another field nearby that has grown corn for 35 consecutive years.

"On an open, well-drained soil," he says, "like the fox sand on the Newell farm, you don't need barnyard manure. You can get humus by plowing down the corn stalks. You can buy fertilizer in the bag. And don't forget, 65 per cent of the fertility required to grow the crop goes back into the soil with the corn stalks. Nevertheless, on a clay or heavier type of soil, the program wouldn't work at all."

MR. NEWELL turned from mixed farming a few years ago, and now combines his corn growing with a few acres of asparagus. This combination he finds sufficient to keep his hired man busy all the time, and himself working double shift during the busy season. It provides jobs for 13-year-old Robert in the summertime, too. The farm, just north of Hamilton, is far from Ontario's corn belt in the southwestern part of the province. Shelling mills abound there, but he must shell his own. That means storing the crop over winter in two huge corn cribs, each 200 feet long. He then shells in early summer, for haulage to a local feed mill, which uses the corn for broiler feed.

With his big acreage, this cash cropper has found it cheaper to buy individual fertilizer nutrients, than to buy the mixed fertilizers. He applies them, however, in one trip over the field. The 300 pounds of ammonium nitrate are broadcast from an attachment on the front of the tractor, while the two hopper-type spreaders dragged behind, drop out 200 pounds per acre of triple superphosphate, and 150 pounds of 60 per cent muriate of potash. This is plowed under. At planting time the crop is also side dressed with 200 pounds of 4-12-10. ✓

Lacombe Pasture Experiment

AFOREST of fence posts greets visitors to the large-scale pasture experiment being conducted at the Experimental Farm, Lacombe, Alberta. Initiated last year, the project is a joint effort of the Animal and

Field Husbandry Divisions, and consists of 27 two-acre pastures. The aim of the experiment is to compare three pasture swards at each of three different levels of fertility. "We couldn't try all combinations, so, by a process of elimination, we chose some of the most feasible ones," explained agronomist H. B. Stelfox.

The pastures consist of bromegrass sown alone, creeping red fescue sown alone, and a mixture of brome and alfalfa. Each pasture type received three different fertility treatments: one, 100 pounds of ammonium nitrate per acre; another, 200 pounds of ammonium phosphate (16-20) per acre; and the third, with no fertilizer at all. Each pasture type is also repeated three times to cover the three main soil types found in the area.

AN interesting feature of the tests is that production will be measured by animal gains, and dry matter yields of forage from caged areas within each field. To measure animal gains, 100 yearling steers obtained last fall were put on the individual two-acre experimental pastures last spring.

"One thing we have found is that you obtain a terrific increase in production by including a legume in the mixture," Stelfox said. "In some cases, this has amounted to 3,000 pounds of dry matter per acre for the mixture, as compared with only 700 pounds for grass alone."

"For grass we favor brome and creeping red fescue here. These are aggressive grasses that keep the alfalfa in the sward down to a safe grazing level."



[Guide photo

Some of the 100 steers in the pasture gains per acre experiments at Lacombe.

Czar of Antler Lake

Continued from page 12

"We should hurry," she grumbled. "They'll need us back . . . and besides, I hate this place." She turned her back on it, and thrust her hands deep into her coat pockets.

"I don't suppose it'll make much difference," Dmitro began, intent upon his thought. "I mean, when. . . There'll still be Grandpa Fedor, and Dad, and the uncles. Grandpa Fedor'll be the Old Man, then." He looked around at Milda, but her face was hidden by her coat collar. "I'll miss him a lot, though," he went on. "He always used to like me to go about with him, even when I was little. I guess it was because I was the great-

MEN PAST 40



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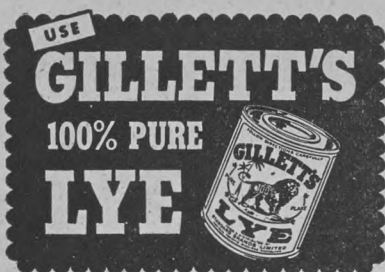
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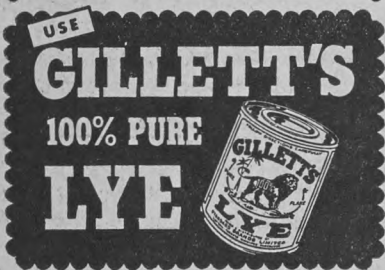
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grandson. He never seemed so awfully old to me, somehow."

Milda turned abruptly. "I can't remember a single day when I wasn't frightened of him." She tried to control her voice. "Not frightened really, I mean . . . but just . . . well, he was so old, and I always used to feel he looked right through me. He knew I tried to keep out of his way," she added unwillingly, recalling how, as a small girl, she had hidden behind the grown-ups when Grandpa Wasyl's eye was upon her.

"You don't like me to say that, do you?" she asked sharply, peering at Dmitro in the dim light, her heavy black brows drawn into a straight uncompromising line. "Well, I can't help it! You're older, and he was different with you! Whenever I dodged out of doing some of the work he always seemed to be there, noticing. You wouldn't have liked it yourself! I don't want to work forever on the farm. I don't hate farm life, but I'm sure he thought I did." Her explanation trailed off uncertainly.

SHE waited, but Dmitro had nothing to say. She turned aside, and faced over the bare fields. Here and there their thin covering of snow had blown away. The remembrance came back to her of the times she had followed behind the plow with the women and the other children, picking up large stones and staggering with them in her arms to the sides of those very fields, to add them to the growing piles. They had hurt her hands and strained her back. That was Grandpa Wasyl's doing! He thought they should manage all but the very big boulders. Always, the farm was the most important thing.

"He's always thought we should work as hard as he did," she complained bitterly. The words seemed to linger in the air accusingly. She listened to the sound of them.

"No! I shouldn't say it!" she protested vehemently, feeling ashamed of herself. "I've been forgetting. He worked harder than anybody. Just as hard for the others as he did for himself. I guess I've been too busy disliking him to see how much he means around here. I don't think anything's been done in this district without consulting him first. Even outside the family. How many times have I heard he practically built the church himself, and the old sod schoolhouse down there! And he helped put up all the earlier buildings. This road, even!" She looked right and left along its length. "Wasyl's Road, they call it! Because he made it. It was just a trail, and he put loads of stones from the fields on it, year after year. It used to be so deep in gumbo each spring they couldn't use it. I knew all that, but it never occurred to me before how much of it was his doing." She broke off. "My doing, too," she added, suddenly excited. "I didn't realize it, did I?—gathering the stones as the plow turned them up! I never saw it that way before!"

"You weren't the only one. We all helped," Dmitro reminded her mildly.

"I know—I know. That's what I mean! He made the best use of everything that was done. He directed everything—no wasted effort!" She reflected a moment, and then asked, "He never went to school, did he? He's

always been a successful farmer, yet he never learnt to speak much English. It must surely have been difficult for him at times?"

"Oh, I don't know. Perhaps it was. In the early days there'd be very little contact with anyone outside the village. They were so poor, they had to do without the things money would buy; but they grew their own food and they were almost self-sufficient. By the time he could afford to buy machinery, Dad and some of the others could speak some English, and they would transact the business for him. And at home he never talked much, anyway." Dmitro hesitated. "Soon," he indicated the cemetery, "he won't need to talk at all."

Milda turned back and joined him at the gate. She found herself studying the few tombstones that stared blankly at each other across the center path. She had known most of those who lay in these newer graves; but the older, unmarked mounds, barely distinguishable under the snow, were not even names to her. Yet those names had belonged to her great-grandfather's closest associates, and he had outlived them all.

Dmitro spoke of the matter that had been in his mind from the first. "I was thinking—it's lucky the digging won't be too hard. The frost's not very deep in the ground yet."

"Dmitro! What a thing to say!" She checked herself. After all, was it not the practical point of view? Yet Dmitro, not she, had been fond of the old man. "Why, of course!" she said suddenly, "he must often have thought the same thing himself. He must have helped to dig most of those graves. Why should he mind? But," she added doubtfully, "you won't have to help . . . with the digging, will you?"

"I don't know. If they ask me, I will. Grandpa Fedor won't make me, but he asked if I would, when we saw the Old Man wasn't going to get better. He said it wouldn't be right to have the grave dug by anyone outside the family—unless the men asked to do it as a special mark of respect. Some of them have been to Grandpa already, so I expect we'll each do some."

"Can't you let them do it? Why not? Surely we don't have to keep those old ideas?"

"It would only worry Grandpa if I backed out. I don't mind."

MILDA lost herself in thought, her mind busily shaping a rapidly changing viewpoint. At last, she was seeing Wasyl Sidjak from a level nearer his own. She saw something of the purpose and passion of his life—the need for land, the zeal to make it fruitful. More than that, she was beginning to see in Dmitro the likeness to himself that the Old Man had found and clung to. Dmitro's destiny had been prepared for him.

Milda had her own problem. "I've always wanted to go to university. I want to be a teacher, like Aunt Rose," she mused. "Do you think he'd mind?"

"Don't be silly. He realized you wouldn't stay on the farm. Dad and I were talking things over once, and he told me Grandpa Wasyl said you were growing up to be like Aunt Rose. If you want to know, he told Mother last winter that he'd settled with Dad that if you wanted to go to university next

year, you were to go; and if you needed special coaching, you were to have it. Dad told me."

Milda looked hard at her brother. "He did? Mother never said! She's told me so often I'd be better off married than earning my own living, that I thought I hadn't a chance."

"Dad was always willing, and Grandpa Fedor wouldn't go against anything his father said, whether Grandpa Wasyl were here or not."

"But Mother?"

"Talk to Dad, and there won't be any difficulty."

"Nobody told me anything of this!"

"Well, you know it now. Grandpa's the one you have to thank."

"Oh . . .! And I thought he despised me! You were always his favorite."

"That was only because I never wanted to do anything but farm, like him. Before I finished high school, I knew I could go to university if I wanted; but I didn't, you see. I'm not dumb! It's just that it's a waste of time as far as I'm concerned. Perhaps not for Uncle Kost, Uncle Bohdan, and Aunt Rose; but they didn't want to stay on the land, and there were plenty of others to run the farms. I just want to stay here and farm. I can go to university later—any time at all!"

Milda laughed ruefully. "No wonder Mother's so angry! You could go to university, and won't. I want to go, more than anything else in the world, and she sees no need of it."

"Well, if Grandpa Wasyl says you can go, and I needn't, that's the way it'll be. Even after he's dead, Mother won't go back on what he said, so you needn't worry."

"Dmitro! I've just remembered!—about the time Grandpa Wasyl got the idea of starting a honey co-operative! You remember he persuaded Johnnie Luchak that he'd make a lot of money if he joined; and Grandpa Fedor helped Johnnie put the bees in the hives when they came. We thought everything was going smoothly until Johnnie, covered with bee-stings, came roaring up to the house for Grandpa Fedor. Oh! What a fuss there was! Johnnie was in a dreadful state, and swore he wouldn't have anything more to do with bees, because whenever he went near the hives, the bees flew out and chased him! Oh! . . . It was the funniest thing!"

Dmitro grinned at the recollection, but Milda's laughter was hysterical. He marched her briskly back toward the road.

"You know," she said, and wondered to find herself able to say it indulgently, "I think that was the only time Grandpa Wasyl was beaten. He couldn't make the bees like Johnnie!"

The frosty air calmed and invigorated her. She felt beautifully at peace. She had been afraid, but that was past. It was enough to have discovered there would be no need to fear this death that was approaching so slowly; no need after he died, to try to forget Wasyl Sidjak. He was someone to be proud of, to speak of often. A man of merit.

At the bend of the road, Dmitro turned and looked back searching for the dark familiar shape of the spruce grove that sheltered the farmhouse.

"The light!" he said. "The light in Grandpa's window—it's out!"

The Countrywoman

by AMY J. ROE

A packet of themes, some old, some new, in a Christmas mood — from personal points of view of various contributor friends

The novelist was unquestionably one of the greatest walkers of his day. He kept himself in top form by this sort of exercise and could walk the legs off all his friends. It was his custom to write at his desk during the hours of sunlight and then after dark take long walks. He hiked all over London, and knew the city like a book. He followed out this routine at the time he was writing *A Christmas Carol*, not going out, as he himself admitted, until "all the sober folks had gone to bed," and then walking 15 or 20 miles on a single night through the city's black streets. V

★ ★ ★

Charles W. Howard is responsible for the very latest thing in educational enterprises—a "Santa Claus College." Each fall, a group of men come to his large home at Albion, New York, to be trained to play the role of jolly St. Nicholas in department stores, during the pre-Christmas season. When Howard, the founder of this unique school, filled the role for a Rochester store, he made such a hit that he thought that he might undertake teaching others some of the finer points in entertaining children. At his college, students are called to class by sleigh bells; they learn make-up, proper costuming and get a smattering of toy-making and child psychology. Their Alma Mater song is *Jingle Bells*. Before a student qualifies for a degree as Bachelor of Santa Claus, he must prove that he can play the part of the bewhiskered, jolly old fellow, satisfactorily. V



When Christmas Comes

*There is a tale of Bethlehem,
Of many years ago;
The birthplace of a tiny Babe
Beneath a star's bright glow.*

*And every year at Christmas time
The old tale we repeat;
How shepherds prayed and wise men knelt
In adoration sweet.*

*Now, when the waning year comes round
To Christmas frost and snow;
Again the Babe of Bethlehem
Is here, as long ago.*

*He dwells anew in all men's hearts,
Serene and undefiled.
And something of His love we find
In every little child.*

—EFFIE BUTLER.

New Year Old Custom

For a novel touch for New Year celebrations, why not try making "poplady" buns—a name given to a sweet spiced bun, roughly fashioned in shape of the human form, with currants for eyes, buttons and other features. For centuries, popladies were baked, sold and consumed at New Year's, in St. Albans. An English visitor from there told me about them, recently.

"Bright and early on New Year's morning, boys and girls carried these hot buns through the streets, crying out, inviting all and sundry to buy their wares. I can remember," explained my visitor,

"that 50 years ago, practically everyone in St. Albans bought popladies. In time, the making of these buns for sale declined, although even today, there are loyal followers of the custom, in a few families, who trace their ancestry back to pre-reformation days.

"In more recent times, the buns have not been offered for sale in the streets. But they are baked and sent as gifts to friends at New Year. The origin of this old practice is shrouded but it could possibly be related to an old custom observed by the people of Coventry, who gave gifts of 'God cake' on the first of January each year. These were pastry triangles, with mincemeat filling."

In St. Albans, it is thought that the "poplady" may have evolved or been a variation of the special cakes or buns prepared for distribution in old religious houses before the Reformation. Originally, they were formed to represent the figure of the Blessed Virgin. Later they survived as a secular treat, sometimes, in mockery called the "pope lady"—which later was shortened to "poplady" with few knowing little about their origin. In earlier days they were formed to represent a gowned woman, later bakers made them with legs, to represent men. A change, possibly made to attract the eyes of children.—Effie Butler. V



Red Christmas Bell

Illustrations for the two pieces of fiction in this issue, introduce to readers an artist, who makes her first appearance in *The Country Guide*. Over a period of 25 years Annora Brown of Fort Macleod has won recognition and fame as an art teacher, writer, and illustrator of school text books for a Toronto publisher and for her paintings, mostly on Alberta themes. A four-color reproduction of one of her many Indian paintings "The Prairie Chicken Dance" appeared in the *Alberta Golden Jubilee Anthology*, 1955, by W. G. Hardy.

Shortly, we hope to present to our readers the story of Annora Brown and her work. For some years past, due to family responsibilities, she has worked at home in Fort Macleod, receiving requests and directions, and sending out finished work by mail. An artist enters wholeheartedly into the character and mood of a story. When Annora Brown sent along the finished illustration for *The Christmas Doll*, she added the following in a letter to the editor:

"I got some amusement out of hanging a paper bell to the shelf in the store. I wonder how many readers who identify themselves with the little girl, gazing at the doll, will see her under one of those wonderful paper bells, surrounded by festoons of red and green paper. I wonder, too, if the red bell that I used as a model is a collector's item or just trash. My experience was so different from that of little Lucy Andrews. I prayed for a baby and got a wax doll. I was scarcely on speaking terms with the Lord for some time after. All my friends got babies." V

★ ★ ★

If almond paste is in short supply, when adding the finishing touches to the Christmas cake, and the housewife cannot readily reach the store, try the following hint sent in by Maud Strike, Shellbrook, Saskatchewan:

Take a medium-size, cooked and mashed potato. While it is still warm, add sufficient icing sugar to make a paste, mixing in at the same time one teaspoon of almond flavoring—or enough to give the substance a bona fide almond flavor. This partly depends on the size of the potato. Brush the cake with egg white, then cover with the paste. White of egg may be used to brush over the paste surface before applying icing. V

IF you were walking down the streets of Vienna, you'd be greeted with the glad words, "Froeliche Weihnachten!" In Paris, people would smile at you and say, "Joyeux Noel!" In Stockholm, you'd be flung the hearty salutation, "God Jull!" while down in Rio de Janeiro you'd be greeted, "Feliz Natal!" In Rome, the happy cry passed along is "Buon Natale!" In Copenhagen, it's "Glaedelig Jul!" and in Rotterdam, it's "Hartelijke Kerstgroeten!" But there's no mystery in all these exchanges on December 25. In English, they are the same gay greeting:

"MERRY CHRISTMAS!"



With Humor Seasoning

Seasonable items to provide a garnish of smiles around the holiday

by PAUL V. D. HOYSRADT

A century or so ago, London swarmed with carol "pluggers" during the Christmas season. In order to sell sheets with the words, peddlers went about the streets, singing Yule carols at the top of their lungs. Far from shunning such boisterous salesmanship, the English public bought the carol-sheets like hot cakes. At one time, no less than 89 different carols were printed and being sold. Of course, there were certain favorites. Year after year, popular taste ran to a number of old-timers, all illustrated with the same crude, old-fashioned wood cuts ever since anybody could remember. One day a progressive-minded gentleman approached T. Batchelar, the London carol-sheet publisher, and asked him why he didn't introduce better illustrations. The canny Englishman shook his head. "I know they are needed. I could get them, too—but they just wouldn't sell. You have no idea how people love those old ones!" V

★ ★ ★

The strangest Christmas present ever bestowed on a newspaper writer probably went to Eugene Field. In the days when Field conducted "Sharps and Flats" column in the *Chicago Daily News*, it was the custom for the proprietor, Melvin E. Stone, to present his employees with turkeys for the holiday. One year the humorist gave "the boss" a tip that he would prefer a new suit.

Trying to square off with the famous practical joker, Stone sent Field a box that looked as if it had come from Chicago's finest haberdashery. But when the writer opened it he got a surprise. Inside was a convict's suit! Stone lived to regret his merry gesture. Always, after that, Field kept the suit hanging in his office. Whenever "the boss" brought important people to the plant, he would quickly slip it on and start pattering around with a shovel and a coal skuttle. Frequently a visitor would grow curious. If he asked Field what he, a convict, was doing there, the columnist would say that he was serving out a life sentence at hard labor for Mr. Stone! V

★ ★ ★

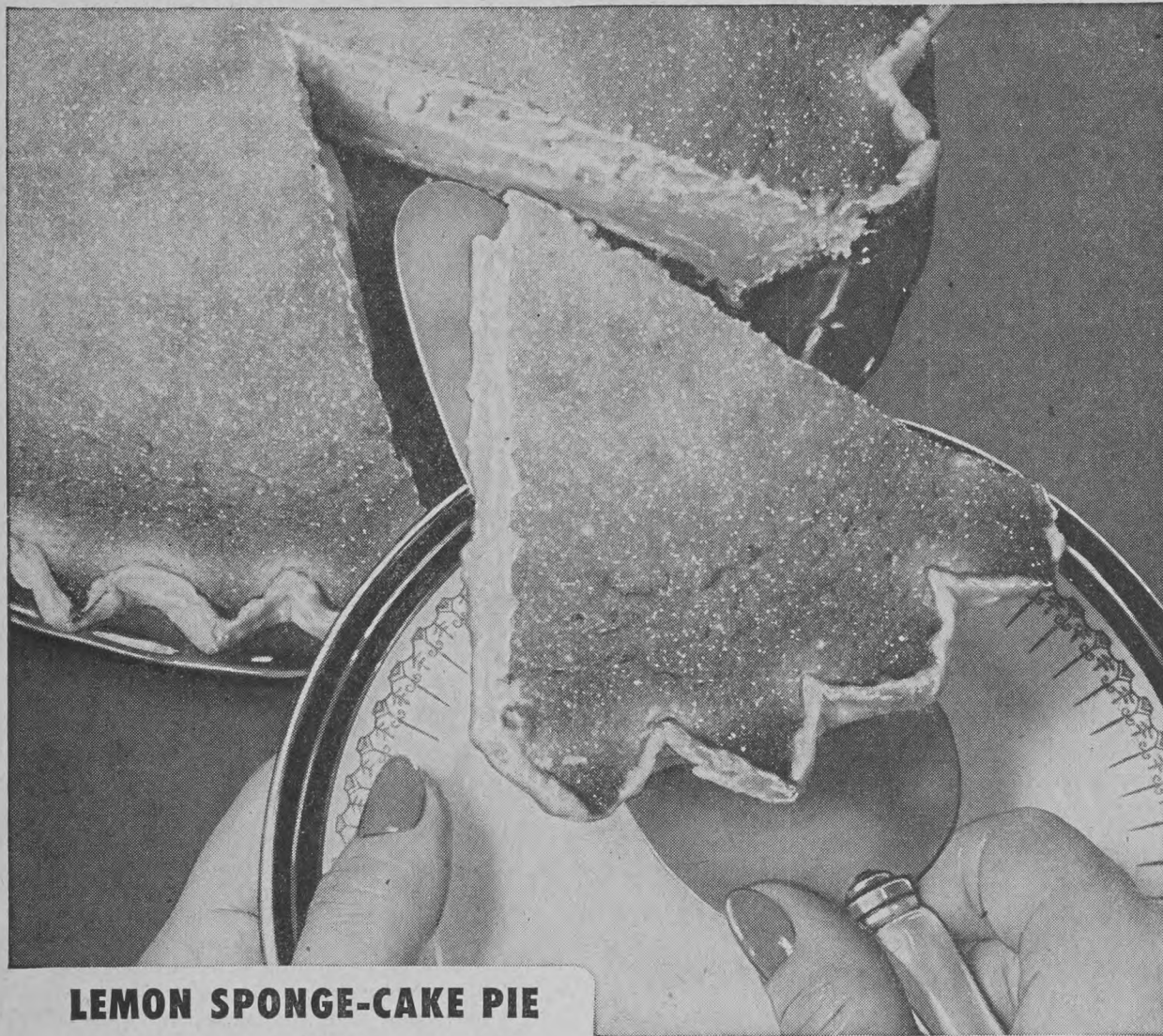
On Christmas Day all the neighbors liked to come to Charles Dickens' big home at Gads Hill, but the experienced ones knew enough to turn down another invitation. Some time before dinner, their genial host would propose that all the gentlemen present join him in a "stroll" about the countryside. Those who accepted were always sorry afterward. They would return, huffing and puffing for dear life, looking utterly fagged and done in, while Dickens, for his part, appeared as "chipper as a daisy."

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LEMON SPONGE-CAKE PIE

PASTRY CRUMBLES

(makes 4 double-crust pies or 8 single crusts)

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1 lb. lard or vegetable shortening
2 teaspoons salt



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Sift flour and salt together. (No guessing with Robin Hood Flour — it's "Bake-Tested" to give you the lightest, flakiest pastry ever . . . *uniformly* best results in all your baking!) Cut half of lard in until very finely blended. Cut remaining lard in until it is the size of peas. Measure $1\frac{1}{4}$ cups (packed) of mixture. Sprinkle with 2 to 3 tablespoons cold water while tossing mixture with a fork. Press together. Roll out and fit into 9" pie plate. Store remaining "crumbles" in cool place.

FILLING

1 cup sugar	1 cup milk
$2\frac{1}{2}$ tablespoons Robin Hood Vitamin Enriched Flour	Grated rind and juice of 1 lemon
$\frac{1}{8}$ teaspoon salt	2 tablespoons melted butter
3 egg yolks, beaten	3 egg whites, beaten stiff

Mix sugar, flour, and salt. Beat egg yolks. Add melted butter and milk to eggs. Add dry ingredients gradually. Blend. Add lemon rind and juice. Fold in beaten egg whites. Pour into pastry-lined pie plate. Bake at 425° F. for 10 minutes. Reduce to 300° F. and bake 30 to 40 minutes. Delicious? You bet — most delicious you've *ever* tasted — or your money back — plus 10 percent!

Bundle Relay Race

TWENTY bundles of all shapes and sizes are divided into two piles of ten each. The players are formed into two groups and lined up at opposite sides of a table, upon which the bundles are placed. At a given signal, the leader in each line picks up ten packages, runs to a point designated on the opposite side of the room and back again, putting the parcels down on the table one by one, after which he goes to the end of the line and the next one starts on his trip. The side finishing first wins. Any packages dropped must be picked up by the one who drops them. V

Come and Get It!

Quiz for holiday party

Name these eaters by what they ate. Don't follow this diet at any rate!

1. Curds and whey.
2. Pancakes.
3. Christmas pie.
4. Manna.
5. Poisoned apple.
6. A grandmother.
7. Bread and honey.
8. Fat and lean.
9. Locusts and wild honey.
10. Tarts.
11. Bread and pottage of lentils.
12. Porridge.
13. Mr. McGregor's carrots.
14. Short'nin' Bread.

ANSWERS: (1) Little Miss Muffet. (2) Little Black Sambo. (3) Little Jack Horner. (4) Moses. (5) Snow White. (6) The Wolf. (7) The Queen. (8) Jack Spratt and his wife. (9) John the Baptist. (10) The Knave of Hearts. (11) Esau. (12) Goldilocks. (13) Peter Rabbit. (14) Mammy's Little Baby. V

A Gift for Each

CHRISTMAS parties at clubs, schools and other social groups may include a plan for having each person bring a small gift for another member. Make the distribution of these gifts in a manner that it will be a part of the entertainment in which all participate.

Ask each person to place his wrapped gift on a table. Prepare beforehand slips of paper on each of which is written a line or two from the familiar poem, "The Night Before Christmas" such as: "The stockings were hung by the chimney with care" or "Mama in her kerchief, and I in my cap, had just settled our brains for a long winter's nap" or "He had a broad face and a little round belly."

Have one slip prepared for each person present. When the time comes for distribution of gifts, ask the guests to stand or sit around the table and recite together the words of the poem "The Night Before Christmas" (the leader should have a copy of the poem in case some words are forgotten). As it is recited each person (when the "lines" on his slip is repeated), goes to the table and selects a gift. When the entire poem has been recited, all begin opening, each his individual parcel.—A.T. V

The Christmas Doll

by CLARA GANDY ANDERSON



I STOOD with my nose pressed against the big glass window of White's General Store looking at the doll. My big sister Cora was inside buying some sugar and coffee—whole roasted coffee beans that Papa would grind in the coffee mill while Mama was making up biscuits in the wooden dough tray for our breakfast.

I had never seen a doll like this one in all my life. It was a wax doll—with real hair and eye-lashes. The fingers were not made all in one lump, but each finger was separate. She had on a pink dress with lace and a white underskirt and a pink hat and black patent leather slippers.

For months I had been looking at the doll every time I came to the store. Mr. White had told me the doll was to be given away on Christmas Eve to the one who had the most tickets. And to get a ticket you had to trade a whole *dollar's* worth in his store. Tomorrow would be Christmas Eve!

Once I had hinted to Mama about the doll. I didn't come right out and ask her about it, because she had been sick a lot for a long time, and we didn't want to worry her. But when I *hinted* about a doll for Christmas, with real hair and fingers, she had smiled weakly. "Why, Puss, 'All things are possible with God,' you know. Would you like a doll like that more than anything else?"

"More than anything in the world!" I told her, and skipped away so happy inside at the thought of owning a wax doll I was about to burst.

Cora came out of the store. "Pull up your stocking, Gracie Andrews," she said quickly.

I looked down and saw that my black-ribbed stocking had slipped down under my garter. I pulled it up, and was proud that you could hardly see where Mama had patched it on the knee.

"Here, you can carry the coffee," Cora said and handed me the brown paper sack with the coffee in it. She walked on ahead and I followed, after another long look at the doll.

We passed the blacksmith shop and crossed Clear Branch. I hurried to catch up with my sister. "Cora, do you think I might get the doll in Mr. White's window?"

Cora paused. "I don't think you will, Puss. You see, you don't get tickets when you trade on credit. And Papa said he barely had enough to pay out of debt when he sold the cotton this year . . . what with the

doctor bills and all. Walk faster! I want to get home and help Mama iron."

My heart felt like a lump of lead hurting my chest. I lagged farther behind, scuffing the toes of my shoes in the soft dirt of the road. I'd heard Papa talking about boll weevils many times, but when we started picking our cotton I thought we never would get through. Sometimes we'd get up so early we'd start picking before the frost melted off the cotton. And sometimes we'd pick so late Papa would

She wasn't in the yard that day, but there was a little tub and a washboard on the tea table near the front gate, and on the white pickets were a great many doll clothes hanging to dry. There were little dresses, white underskirts, and little white cambric drawers with ruffles of embroidery. I couldn't take my eyes off them. I had to touch them. I picked up a yellow gingham dress to see all the tiny tucks . . . and I couldn't seem to put it down again. I looked at Cora. She was going on, looking straight ahead. I

"He's at the barn shelling corn to take to the mill tomorrow. Are you tired, Puss?" She put her hand on my cold one, and I couldn't help noticing how thin and white it was.

"No Ma'am," I answered. I wanted to get away by myself so I could look again at my treasure.

Mama said, "I've so much to be thankful for. A good man and good children. They never cause me a worry."

I couldn't look at her. She had said we were good, and I had that dress in my pocket. What if Mama knew that?

"What's more, we're honest people," Mama went on dreamily. "We may not have much money in this world, but we have a happy home . . . and love . . . and honor!"

I felt so ashamed I wanted to drop through the floor. I thought she wouldn't be happy if she knew I had stolen a doll's dress. And then I told myself I hadn't stolen it. No, I would never, never *steal*. I had just taken it. It was all right. Eva Jean would never miss it. It wasn't really stealing.

I went out to the smokehouse and got in one corner by the meat box, and took out the dress and looked at it again. Somehow it didn't seem so remarkable. Suddenly I wished with all my heart that I hadn't taken it.

When Papa came in with the load of wood he had cut that day, and unhitched and fed the mules, Mama called us in to supper. I couldn't eat. I put cornbread in my milk—and the milk was cold and creamy—but it didn't taste right. I was glad nobody noticed I couldn't eat.

I said my prayers early and went to bed, but I couldn't go to sleep. I kept thinking about that doll's dress I had taken. Then I whispered the Lord's Prayer and started saying over the Ten Commandments. When I came to "Thou shalt not steal," the words seemed to stand up in tall letters. At last I told myself I had *stolen* the dress. Tears wet my cheeks.

"If You'll forgive me, Lord," I whispered, "I'll make it right. I'll take the dress back to Eva Jean."

NEXT morning at the breakfast table I asked if I could go to town right away. I had to go as soon as possible. I was so miserable and unhappy I wanted to cry.

"Why, child, you've never been that far alone," Mama said. "And you've no business there. You went with Cora yesterday."

"Please, Mama," I begged.

Cora spoke up, "I guess she wants to take another look at that doll in Mr. White's window before it's gone. It's to be given away this afternoon. You know, this is Christmas Eve."

"Ah, so it is," Mama said slowly. "Your Papa will be going to the store this afternoon. Couldn't you wait and go with him?"

"No," I said stubbornly. "Please let me go. I've got to go, Mama. I (Please turn to page 38)



I stood with my nose pressed against the glass of the big window of White's store.

Illustrated by Annora Brown

Gracie Andrews, like many another small girl, had her mind and heart set on getting a doll for Christmas—a story which might happen in other parts as well as in the cotton lands

have to strike a match to see the scales when he'd weigh the cotton. I didn't pick all the time. Sometimes I'd take a nap on the cotton near the scales.

We passed the Primitive Baptist Church, and around the bend of the road we came to the Carlton house.

Mr. Carlton was a lumberman and very rich, we'd heard. They had a little girl named Eva Jean. I'd often seen her playing in the yard when we passed their house. She had a wax doll, a buggy, a tea set and a table. Sometimes I'd stop and watch her between the pickets of the fence when I knew she didn't see me there.

crammed the dress in my coat pocket, and then ran to catch up with her.

I might never, never own a wax doll like the one in Mr. White's window, I thought, but I had a pretty doll dress that would just fit my rag doll, Nancy. I was fiercely glad I had taken the dress. I kept my hand in my coat pocket so I could feel it.

When we got home, the three black sad-irons were sitting in a row on the hearth in front of some glowing coals. Mama was sitting in a rocker by the fire. "I had to stop ironing for awhile," she said.

"Let me finish," Cora said. "Where's Jodie?"



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The Christmas Bird

A review of points to consider in roasting the holiday fowl

by PHYLLIS A. THOMSON

WHETHER the Christmas dinner revolves around a turkey, goose, duck or chicken depends partly upon family tradition and partly upon the number of people who gather for the festive occasion. Whichever you choose will be delicious when roasted to a golden brown and garnished with sprigs of parsley or a string of cranberries. Ruffles of red and white tissue paper wrapped around the drumsticks add an extra touch, especially if the bird is being carved at the table.

When choosing a bird, look for the signs of good eating: a pliable breast bone, a soft, supple skin, firm flesh and a general "well groomed" look. Select a bird large enough to allow three-quarters to one pound of meat for each person for chickens, capons and turkeys and one to one and one-half pounds per person for ducks and geese (much more of their weight is in the form of fat).

To prepare for stuffing, first thoroughly rinse inside the bird then sprinkle salt inside the main cavity. Pack loosely with dressing, pushing it well up into the rib section. The type you use will depend on your family's preference. Bread dressing is a general favorite for fowl, especially chicken and turkey. It may be seasoned with sage, marjoram or poultry dressing and onion. For variety sausage, chopped celery, nuts or mushrooms may be added. Rice is a favorite stuffing for duck while mashed potato is traditional with goose. Allow about one cup of dressing to each pound of meat.

If possible, stuff the bird on the day it is to be served. If time is very limited, stuff the bird the previous day and refrigerate immediately in the coldest part of the refrigerator (but not the freezer section.) Once poultry is drawn, it should be cooked as quickly as possible.

To close the bird, insert small skewers or thin nails through the edges of the skin. Then using clean cord, begin at the upper nail and wrap around the nails, crossing from

side to side for a close lacing. Bring wings up and tuck tips under the back. Tie drumsticks securely to the tail to hold the legs snugly against the body. Rub the skin with unsalted fat, then cover with cheesecloth, aluminum foil, a paper bag or leave uncovered. If foil is used, don't tuck it under the bird or the meat will steam rather than roast. A goose should be pricked in several spots before roasting, to allow extra fat to escape as it cooks.

Birds of all sizes and ages should be cooked at moderate temperature so that the meat will be juicy and evenly cooked throughout. Roast until a meat thermometer (inserted in the fleshy part of the breast between the thigh and body) registers 190° F. The thermometer isn't absolutely necessary but it does give an accurate test of doneness.

When the fowl is roasted in an open pan the gravy will be a rich brown. Remove the fowl to a hot platter, pour off excess fat leaving about two tablespoons of fat for each cup of gravy desired. Add as much flour as drippings and cook over low heat until a golden brown. Add a cup of cold water for every two tablespoons of fat used. Or if you prefer, use giblet broth or add giblets themselves, finely ground.

Wild Rice and Bread Stuffing

- | | |
|--------------------------------|------------------------|
| 1 c. wild rice | 2 qts (8 c.) |
| Giblets, cooked and chopped | toasted bread cubes |
| 2 c. broth or water | 1 tsp. salt |
| 1/2 c. finely chopped onion | 1 tsp. ground sage |
| 2 1/2 c. finely chopped celery | 1/4 tsp. pepper |
| 1/2 c. butter | 2 eggs, lightly beaten |

Wash rice. Cover with boiling water. Let stand 15 minutes. Drain. Cover again with boiling water and let stand another 15 minutes. Repeat once more. Combine rice, giblets and broth. Cook onions and celery in butter until these are lightly browned. Then combine all ingredients and mix thoroughly. Use at once or keep covered in refrigerator and use within 24 hours. Yield: about 15 cups.

Grandma's Stuffing

- | | |
|------------------------|----------------------------|
| 1 1/2 c. chopped onion | 1/2 tsp. nutmeg |
| 2 c. chopped celery | 2 tsp. salt |
| 1/2 c. butter | 1/2 tsp. poultry seasoning |
| 12 slices white bread | 1 egg, slightly beaten |

Cook onion and celery in butter until tender. Toast bread, spread in pan in oven, until golden brown. Cover toast with cold water and soak 5 minutes then squeeze bread to remove water. Tear bread into small pieces. Combine all ingredients thoroughly with fork. Do not mash. Double this recipe for 10- to 12-pound turkey.

Sausage Stuffing

- | | |
|-----------------------|--------------------|
| 1 lb. pork sausage | 1/2 c. milk |
| 4 large tart apples | 2 tsp. salt |
| 1/2 c. chopped celery | 1 T. baking powder |
| | 8 c. bread cubes |

Stir and cook sausage meat in skillet until it is cooked and lightly browned (about 10 minutes.) Core and chop apples into 1/2-inch pieces. Combine all ingredients and mix together to blend thoroughly. Yield: 10 cups.

Fruited Stuffing for Duckling

- | | |
|--------------------------------|-----------------------|
| 2 c. toasted bread cubes | 1/2 c. chopped apple |
| 2 T. melted butter | 1/4 c. raisins |
| 1/4 c. water | 1/2 c. chopped pecans |
| 1/2 c. chopped orange sections | 1 tsp. salt |
| | 1/2 tsp. nutmeg |

Toss together bread cubes and butter. Combine with other ingredients. May add 1/2 c. red wine. Cover. Let stand for one hour before using. Stir well and stuff duckling just before roasting.

Potato Stuffing

- | | |
|-----------------------------|---------------------------|
| 1 qt. dry bread cubes | 1/2 c. chopped celery |
| Cold water | 1 T. chopped parsley |
| 2 c. cooked mashed potatoes | 1 egg, slightly beaten |
| 1/4 c. melted butter | 1 tsp. salt |
| 1 med. onion, chopped | 1/2 tsp. poultry dressing |
| 1/8 tsp. pepper | |

Cover bread cubes with water. Drain and squeeze bread to remove excess water. Brown lightly the onion, celery and parsley in butter. Combine all ingredients. Taste. Yield: 6 cups.

Bread Stuffing

- | | |
|----------------------|--|
| 1/4 c. diced onion | 1 tsp. poultry seasoning |
| 1 c. diced celery | 2 c. clear beef broth or water with 2 bouillon cubes |
| 3/4 c. melted butter | |
| 8 c. dry bread cubes | |
| 2 tsp. salt | |
| 1/2 tsp. pepper | |

Brown the onion and celery in butter in heavy skillet. Combine with bread cubes and seasonings. Pour on beef broth and stir lightly to blend. Yield: stuffing for 5-lb. bird.

Variations:

Nut Stuffing: Follow plain stuffing recipe, toasting 1 to 1 1/2 c. broken walnuts or other nutmeats in 2 tablespoons butter.

Giblet Stuffing: Follow plain stuffing recipe, adding giblets, stewed and put through food chopper.

Barley Poultry Dressing

- | | |
|-------------------------------|----------------------|
| 4 c. cooked pot barley | 1/8 tsp. pepper |
| 1/2 tsp. monosodium glutamate | 1/4 tsp. rosemary |
| | 1/4 c. melted butter |

Combine cooked barley, seasoning and butter. Add additional salt to taste if necessary. Stuff bird and truss as usual. Yield: 4 c. dressing. For special gravy to accompany barley stuffing: Place one teaspoon of mixed pickling spice in bottom of roasting pan and make certain there is only one clove and allspice berry. Place stuffed bird on rack in pan and roast as usual. Make gravy and strain to remove spices.



The traditional Christmas feast . . . turkey with all the trimmings.

That Cranberry Flavor

Juicy red cranberries give a delightful tang to the many rich foods served during the Christmas season

LONG before Columbus discovered North America a small red berry was growing in the flat, sandy bogs of Cape Cod. From Indians who inhabited the peninsula, early settlers learned to use the wild "craneberries" found in such abundance on their colonies. The tart flavor of the berries seemed particularly delicious when served with wild chicken or turkey.

The modern cranberry differs from the native berry picked by the Indians. It is larger, juicier and more flavorful. Thanks to carefully controlled cultivation today's cranberry is sweeter and more brightly colored.

Most of us have come to think of cranberries simply as an ingredient for sauce or relish to serve with poultry. There are many other excellent ways to use this fruit: in jellied salads, as a thick sauce served with slices of baked ham, sundae sauce, for upside-down cakes, puddings, sandwich fillings, canapes, milk shakes and as a base for punch.

Although the season for fresh cranberries is comparatively short, canned cranberries are available the year 'round. You can freeze the fresh berries yourself to use whenever you need them. Simply place the package (as it is packed when you buy it) in the freezer. No additional preparation is necessary. When ready to use, rinse the cranberries in cold water, drain and use as you would fresh berries. It's helpful to remember that cranberries are easier to chop or grind while still frozen.

Cranberry-Orange Relish

4 c. (1 lb.) fresh cranberries 2 oranges
2 c. sugar

Put cranberries and oranges (which have been quartered and seeds removed) through food chopper. Add sugar. Mix well and store in refrigerator several hours before serving for flavors to blend. Make extra to store in freezer.

Cranberry Jewel Salad Mold

1 pkg. cherry flavored gelatin 1 orange, quartered (seeds removed)
¾ c. boiling water
1 lb. can whole cranberry sauce ½ c. cold water

Dissolve cherry gelatin in boiling water. Add cold water. Chill until partially set. Put orange (including rind) through food chopper. Mix it with whole cranberry sauce and fold into partially set gelatin. Pour into 1-qt. mold or 6 to 8 individual molds. Chill until firm. Unmold on lettuce leaves and surround with fresh orange slices.

Cranberry Fruit Bread

2 c. sifted all-purpose flour Juice and grated rind of 1 orange
1 c. sugar 2 T. melted shortening
1½ tsp. baking powder 1 egg, well beaten
½ tsp. soda 2 c. fresh cranberries
1 tsp. salt
½ c. chopped nuts

Sift together flour, sugar, baking powder, soda and salt. Combine orange juice, grated rind, melted shortening and enough water to make ¾ c. juice; then stir in beaten egg. Pour this mixture into dry ingredients, mixing just enough to dampen. Fold in cranberries (cut in halves) and nuts. Spoon into greased loaf pan (9 x 5 x 3 inches) spreading it evenly, making sides and corners slightly



For a tasty snack serve colorful cranberry fruit bread to holiday guests.

higher than the center. Bake in moderate oven (350° F.) 50 to 60 minutes. Remove from pan. Cool. Store overnight for easy slicing.

Cranberry Royal Sundae

2 tsp. cinnamon ½ c. brown sugar
1 lb. can whole cranberry sauce 1 qt. vanilla ice cream

Combine cinnamon and brown sugar. Spoon cranberry sauce over servings of ice cream. Sprinkle about 1 tbsp. of sugar-cinnamon mixture over each sundae. Serves 6.

Cranberry Festival Cake

½ c. shortening 2 tsp. baking powder
1 c. sugar ¾ c. milk
1 egg ½ tsp. vanilla
2 c. sifted all-purpose flour 1 c. halved fresh cranberries
¼ tsp. salt

Cream shortening and sugar until light and fluffy. Add egg, beating until thoroughly blended. Sift together flour, baking powder and salt. Stir vanilla into the milk. Add dry ingredients alternately with milk, mixing well after each addition. Fold halved cranberries into mixture. Pour into greased 8 x 8-inch square cake pan. Sprinkle with sugar and bake in 350° F. oven 45 to 50 minutes.

Prize Cranberry Pie

1 baked pastry shell (9-inch) ¼ c. cold water
1 can whole cranberry sauce 2 egg whites
1 T. cornstarch ½ tsp. salt
½ c. granulated sugar 2 tsp. lemon juice
¾ c. water 1 tsp. almond extract
1 c. heavy cream 1 envelope unflavored gelatin

Cook cranberry sauce and cornstarch until thickened (about 5 minutes.) Cool. Cook sugar and water to soft ball stage (238° F.). Add gelatin softened in ¼ c. water. Slowly pour this syrup over stiffly beaten egg whites, beating constantly. Add salt, lemon juice and almond extract and continue to beat until cool. Beat cream and combine with egg mixture. Pour into pie shell. Chill. Spread cranberry sauce over top and place in refrigerator until serving time.

Quick 'n' Easy Cranberry Sauce

4 c. (1 lb.) fresh cranberries 2 c. sugar
2 c. water

Combine cranberries, sugar and water in saucepan. Heat to boiling point, stirring until sugar dissolves. Boil rapidly until berries pop open (about 5 minutes). Makes 1 quart whole cranberry sauce.



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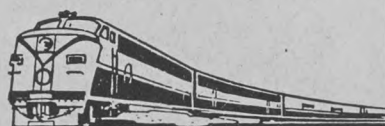
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Christmas with the Authors

From their own words we can picture how the Day was celebrated in years long past

by JAMES E. CARVER

IT is not strange that Christmas, with its spirit of good will to all men, has long been a favorite subject with England's great writers.

Undoubtedly it was Charles Dickens, intrepid fighter against all cruelty and the champion of the down-trodden, who did more than any other novelist to immortalize in words the spirit of Christmas. In his famous "Christmas Carol" he puts his ideal into the mouth of Scrooge's nephew: "I think of Christmas as a good time, as a kind, forgiving, charitable time, when men and women open their hearts to help people about them." Nobody has ever bettered that sentence.

The "Wizard of the North," Sir Walter Scott, has left us graphic accounts of Christmas, but in his poem, "Marmion," he adds a lament for some of its glories which even then seemed to be departing:

*England was merry England, when
Old Christmas brought his sports
again.*

*'Twas Christmas broached the
mightiest ale,*

*'Twas Christmas told the merriest
tale.*

*A Christmas gambol oft could cheer
A poor man's heart through half
the year.*

It is true that some of the old-time festivities which marked Christmas of former years have gone, but in a thousand ways people are infinitely better off than they were in his day.

Toward the end of his life, troubles began to gather thick about him. Under the date December 25, 1825—not long before he found himself saddled with a debt of £130,000 through the failure of his publishing and printing firms—he wrote: "Abbotsford. Arrived here last night at seven. Our halls are silent compared to last year, but let us be thankful—when we think of how near the chance appeared but a week since that these halls would have been ours no longer." The halls were to remain his, but at the cost of terrific work to pay off the debt which ruined his health.

Dorothy Wordsworth, beloved sister of the immortal poet of the Lake district, draws us a picture of true domestic happiness: "Christmas Eve. William is now sitting by me at half-past ten o'clock. I have been repeating some of his sonnets to him . . . It is a quick, keen frost. Coleridge came this morning with Wedgwood. We all turned out one by one to meet him. He looked well. It is Christmas Day, Saturday, 25th December, 1802. I am 31 years of age."

The famous novelist of the last century, George Eliot, describes in "The Mill on the Floss" Tom Tulliver's excitement when he came home for the Christmas holidays: "The happiness of seeing the bright lights in the parlor window, and of passing from the cold air to the warmth and kisses of that familiar hearth. And fine old Christmas did its duty nobly that year. The red berries and holly were as abundant as ever, there was sing-

ing under the window, supernatural singing Maggie always said. The plum pudding was of the same handsome roundness, the dessert was as splendid as ever, with its golden oranges, brown nuts, dark apple jelly, and damson cheese."

The Christmas spent by the unhappy Silas Marner in her novel of that name contrasted very unfavorably with the above scene of happiness: "Silas spent his Christmas Day in loneliness, eating his meat in sadness of heart. In the morning he looked out on a black frost, that seemed to press cruelly on every blade of grass, and the icy pool shivered under the biting wind. Toward evening the snow began to fall, and curtained the bitter outlook."

William Thackeray wrote a delightful Christmas story, "The Rose and the Ring," dedicated to his children. Charlotte Bronte described in vivid language the Christmas festivities at Gateshead Hall, the music of piano and harp, the ample drink and refreshments; and the happy hum of conversation; while Mrs. Gaskell, most famous as authoress of "Cranford" in a later novel, "Sylvia's Lovers," tells how Mrs. Corney and her daughters prepared a truly old-time Christmas meal at their Yorkshire home, with spiced beef and ham, plum cake and mince-pies with ample supplies of beer and punch, and how the guests revelled in games, such as Blind Man's Buff, Forfeits, and Turn the Trencher. Similarly Thomas Hardy, in "The Return of the Native," describes another rural Yuletide, but this time in the south, in a Wessex village, and tells how the Mummies, in their outlandish costumes, kept the Jolly company in the best of spirits.

Yes, those were indeed days of hearty profusion and open-handed generosity. Last century's Christmas feasts were large, but mighty as were the meals of our grandfathers they were easily eclipsed by those of the eighteenth century. Then the repasts were literally gigantic. The diary of

kindly Parson Rev. James Woodforde, who from 1774 to 1803 was rector of Westob Longville, not far from Norwich, gives us an inimitable picture of English village life during the latter half of that century.

In his "happy and comfortable thatched" rectory, situated in the heart of the quiet Norfolk countryside, he kept Christmas always in the traditional manner of English rural life when squirearchy was supreme, marked by county good will: "Decem. 25, 1780. I read prayers, administered the Holy Sacrament at Weston, being Christmas Day. My Squire and Lady both at church, and at the Sacrament. This being Christmas Day, the following poor old men dined at my house, and I gave each of them a shilling to carry home to their wives; Richard Bates, Richard Buck, Thos. Dicker, Thos. Cary, Thos. Cushion, Thos. Carr, and my clerk J. S. Smith—in all I gave them 7s. 0d. I had a prodigious fine sirloin of beef roasted with quantities of plum pudding. We also began on Mince Pies to-day at dinner."

Prodigious dinners were truly a feature of those days, as the diary of "Counsellor" Timothy Burrell of Sussex, a typical south-country squire, gives ample evidence. The dishes served included "Plumm pottage, venison and fried oysters, with ample quantities of Rhenish sack, and Canary and red oporto wine to help them down." Christmas gifts were not forgotten in this spate of feasting, and John Coachman was given £1 for "shirts to buy him heart's content during the Christmas holidays."

To conclude, with a picture of a far different sort of Christmas from all those previously described let us look at one spent by the heroic explorer Sir Ernest Shackleton in the Far South: "Dec. 25, 1908. We have had a splendid dinner. First came hoosh, consisting of pony ration boiled up with pemmican and some of our emergency Oxo and biscuit. Then in the cocoa I boiled our little plum pudding, which a friend of Wild's had given him . . . We are full to-night, and this is the last time we will be for many a day . . ."

ANSWERS: (1) Tom, the piper's son. (2) Pinocchio. (3) The hare. (4) Mary's lamb. (5) Jack. (6) The wolf. (7) Snow White. (8) Bo-Peep.

Person or Animal

- _____ was beaten for stealing a pig.
- _____ told lies till his nose grew big.
- _____ boasted and lost a race.
- _____ was turned out of school in disgrace.
- _____ fetched water and had a bad fall.
- _____ huffed and puffed down house and all.
- _____ bit an apple and had a long sleep.
- _____ found it hard to keep track of her sheep. (See left col.)

★ ★ ★

CHRISTMAS tree favor—Draw a pattern and cut two Christmas trees from green construction paper or other fairly stiff card. Cut a vertical slot at the center of each tree, at the bottom of one and the top of the other tree. Dot glue over one side of each tree. Next scatter tiny colored cake candies over the tree. Fasten trees together at the top with four silver star stickers, then spread apart at the base to stand upright.

The Christmas Doll

Continued from page 35

promised God . . ." and then I slapped my hand over my mouth. I'd almost told Mama, and I didn't want to make her worry.

She looked thoughtfully at me, but at last said, "Well, you may go I suppose, but be careful."

Cora combed my hair and got my coat and wool cap for me. I hurried away as fast as I could before Mama changed her mind.

This time, too, I kept my hand around the dress in my pocket. But now it made me sorry and ashamed. I wanted Eva Jean to have it. When I got to the Carlton place I wanted to go on by. It was the hardest thing I'd ever done in my life . . . to open the front gate and go up their long walk that seemed to stretch out longer and longer. When I got to the front door, I lifted up my hand to knock. Then I let it fall and turned to go. Then I thought about my promise to the Lord. I doubled up my fist and hammered on the door.

A fat man with a gold watch chain across his stomach opened the door. He seemed surprised when he saw me. He grinned down at me. "My! my!" he said, "what a loud knock for such a little girl! What can I do for you?"

I squirmed uneasily. "Your little girl . . . Eva Jean, I came to see her."

"Oh, yes, of course! Do come in." He led me into the parlor where a roaring fire was going in a heater with little glass windows. There was a carpet with red roses on the floor.

"Eva," he said. I looked through velvet rope portieres into a sunny room that had a lovely shining table in the center of it. Eva Jean sat across the table from a pretty woman who held a china cup in her hand.

She said, "Excuse me, Mama," and came into the parlor. "Good morning," she said to me. "Did you come to play with me? What's your name?"

I told her my name. I wanted to say almost anything but what I knew

Tree Decorations

PREPARE this quiz by making one sheet of questions for each guest. List questions give clues to articles usually found on a Christmas tree. The guests write answers on right-hand space.

- John Barleycorn's father _____
- A metal and a word meaning "to vend" _____
- A container and a meadow _____
- A title, a letter and a digit _____
- A strip and a French word meaning "good" _____
- The name of a famous inventor _____
- A synonym for "here" _____
- A bed and a measure _____
- This has its points _____
- This is sometimes base _____
- This is an aid to walking _____
- This might be a telegram _____

ANSWERS: (1) popcorn, (2) tinsel, (3) candle, (4) mistletoe, (5) ribbon, (6) bell, (7) present, (8) cotton, (9) star, (10) ball, (11) cane-candy, (12) wire.

I had to say. I felt my underlip trembling, and I bit down hard. "No, I didn't come to play."

She waited for me to say more. I swallowed the lump in my throat, but it came back again. Slowly I took the yellow dress out of my pocket and held it out to her.

"Why, it's mine," she said quickly. "That's my Jennifer's dress!"

"Yes," I said, "it's yours. I took it yesterday, off the fence. I didn't think you'd ever miss it. I told myself it wasn't stealing, but it was. I'm . . . sorry . . . that's why I've brought it back. And I . . . I'm going to give you my rag doll, Nancy. She's just a rag doll but she's awfully sweet." I handed her the dress and Nancy, who'd been hidden under my coat.

"And now, you can turn me over to the sheriff, if you want to . . ."

"Oh, no," she said quickly, "no, there's no need . . ." She tried to put Nancy back in my hands. "Here, you keep your doll. I . . ."

I didn't wait to hear any more. I was afraid I might take Nancy back if I stayed any longer. I turned and went out the front door and ran stumbling down the walk to the gate. I wiped the tears out of my eyes on my coat sleeve and saw Eva Jean on the front porch holding Nancy out in one hand and the doll's dress in the other. "Wait," she cried. "Wait, little girl . . ."

I ran harder than ever until I was out of sight around the bend in the road, and then I fell down on the dry brown pinestraw by the side of the road and cried and cried. But I felt happy again inside.

WHEN I got home, Cora met me at the door. "Gracie," she said, "Mama's real sick, and Jodie went to the woods with Papa this morning. You run and get Mrs. Callie. I can't leave Mama alone." She turned me around and gave me a push. "Hurry, honey! I'll go for the doctor when Mrs. Callie gets here. You can stay over at her house with Sarah."

Mrs. Callie lived on the road over at the back of our cotton patch. She went where people were sick. Sarah was her big girl who was old enough to get married—but hadn't.

I didn't take time to follow the path, but ran across the cottonfield with dead leaves hanging on the cottonstalks. The dry, empty burs scratched my legs. Finally I got to the fence and climbed over the rails. Mrs. Callie was coming through her back gate with some holly for wreaths. When I told her Mama was sick, she ran into the house and grabbed up her thick sweater and her big brown bonnet. She called Sarah, who was in the henhouse looking for eggs to go in the cake she had started to make.

"Keep Gracie here till I come back," she said, and hurried away as fast as she could.

It was most sundown before Mrs. Callie got back. She said I was to go right on home before it got dark.

I went by the path going home and didn't get scratched so much. Papa was at the barn throwing down some hay for the mules. Jodie was helping him. It was dark enough that I could see the evening star. When I went into the kitchen I smelled the ham that was sputtering in the black skillet.

Cora put some wood in the stove and started setting the table. The lamp-light was bright on the red-and-white checkered cloth.

"What do you know, Gracie?" Cora said as she put down a bowl of yellow butter. "Mr. Carlton and Eva Jean just left a few minutes ago. They drove up in a fine buggy with two black horses. They brought you a Christmas present. I was so surprised. I didn't even know you knew Eva Jean. There's the present over there." She pointed a fork to the box on a chair by the door.

"And . . . wouldn't you know it, she won the doll at Mr. White's."

I smiled a little. "I'm glad," I said, and meant it.

Cora turned back to the stove and opened the oven door to look at the biscuits. I opened the box. Inside was

Nancy, my rag doll. How glad I was to see her! She felt good in my arms.

Beside Nancy there was another doll. It was Eva Jean's doll, Jennifer, and a stack of little clothes that would fit her. There was a note pinned to her dress. I had to get Cora to read it to me.

"Dear Gracie,

"Nancy was not happy with me, so I am sending her home. Now that I have a new doll, I want you to have Jennifer and her clothes.

"Merry Christmas!

"Eva Jean Carlton."

I thought Cora would ask me what Eva Jean meant about sending Nancy home, but she didn't. She handed me the note and said, "Run in and see Mama."

I tiptoed into the room where Mama was. The lamp had not been lit, but the firelight lightened the room. Mama heard me come in.

"Come here, Puss," she said softly. I went over to the bed. I started to lean over and kiss Mama, but there was a soft white bundle in the way. Mama pulled back a corner of the blanket. "Look, Puss, here's a doll for all of us for Christmas. See, it has real hair and fingers . . . and it can cry. This is your new baby brother!"

I was so surprised I couldn't say a word. At last I put a finger in its little hand and it held on tight. Then I looked at Mama and laughed and laughed.

I had thought the doll in the window at Mr. White's store was wonderful, but this baby was more wonderful than anything in the whole wide world!



"Christmas in Upper Canada"



hen it was midnight . . . I was suddenly aroused by observing a dark object moving slowly and cautiously amongst the trees. At first, I fancied it was a bear, but a nearer inspection discovered an Indian on all fours . . . I approached him, and notwithstanding his injunction to silence, inquired what he did there. "Me watch to see the deer kneel", he replied. "This is Christmas night, and all the deer fall upon their knees to the Great Spirit, and look up". The solemnity of the scene, and the grandeur of the idea, alike contributed to fill me with awe".

—from John Howison's, "Sketches of Upper Canada" 1821;

Incidentally—now is a good time to start saving for next Christmas. Your account is always welcome.

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Christmas Needlecraft

Welcome suggestions for last-minute Yuletide
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by ANNA LOREE



Design No. S-SS-65

Socky the kitten will be a toddler's favorite Christmas toy. Soft and cuddly yet delightfully attractive, kitten is inexpensively made from odd scraps of material. The body is made from men's woollen socks, firmly stuffed with cotton batting. Strands of pink, royal blue and green embroidery cotton are used to give facial features. Socky's dress needs ¼ yard striped cotton, elastic thread, 2 spools cotton, 2 snap fasteners and ¼ yard narrow satin ribbon for a bow. Design No. S-SS-65. Price 10 cents.

Design No. C-TW-355

During the festive season most women like to tuck some crocheting into their handbags to work at while visiting. Here we have a cherry design bath set that is easily and quickly worked. The cherry spray is made first; leaves and branches are joined to the original spray. Set would make a lovely gift or bazaar feature. Materials: 1 ball red cronita cotton, 2 balls green, 1 ball dark brown pearl cotton, size 5, crochet hook No. 7, hand towel, bath towel and washcloth. Design No. C-TW-355. Price 10 cents.



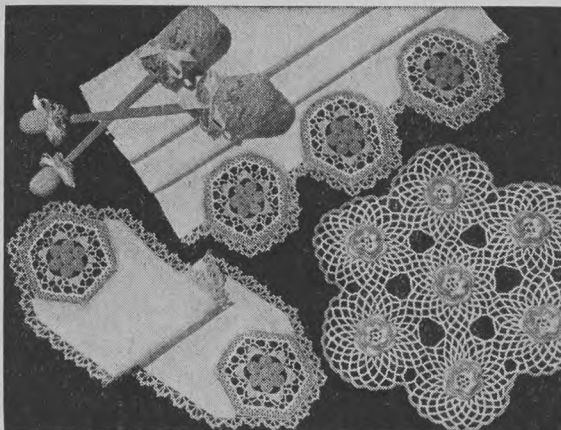
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Design No. S-141

Three designs in one leaflet—jiffy doily, shoe tree mitts and runner and towel set. They crochet quickly for last-minute gifts or to give an added sparkle to your own home. Materials: Doily: 2 balls cronita cotton, No. 7 crochet hook; Shoe Trees: 2 balls pearl cotton size 5, shoe trees, 1½ yards white ribbon, ¼-inch wide, 10 yards gold metallic thread, ¼ yard rosebud braid, cotton batting for stuffing; Runner Set: 3 balls mercer-crochet, No. 10 crochet hook, 2 white huck towels. Design No. S-141. Price 10 cents.



Address orders to The Country Guide Needlework Department, 290 Vaughan Street, Winnipeg 2, Manitoba.

The Knitter's Friend

An old pattern book and
notes on story of knitting

by NANCY M. BETTESWORTH

WOULD you like a knitting pattern for a gentleman's breastplate, an opera cap, or double muffatees with ruffles?

These are three of the items in a small book called "The Knitter's Friend," dated 1878. It was obviously the latest thing in patterns at the time, but now the wools and stitches suggested have faded away like the knitters who used them. Who now could obtain "five threaded super fleecy," "single German wool," or "worsted nine-bobbin French braid?"

Have you ever considered how many garments you have knitted since first you laboriously clutched the needles and chanted "In, over, through, off?" Or how many socks, sweaters, scarves and gloves are finished yearly by the women of this land?

Nowadays we knit for knitting's sake, for the relaxation and pleasure it brings, and for the beauty and economy of hand-knitted articles. Yet at the beginning of the nineteenth century this was considered a suitable occupation and time-killer for "the aged, and feeble minded."

These were the depths to which a once great industry had sunk. The earliest knitted garments still in existence are two red socks, found in a tomb in Egypt. They date back to the fourth century and though the toe is made in two sections to accommodate a sandal strap, the heel is turned exactly as you are turning heels today.

It is thought that knitting began in the east, perhaps in the Arabian Peninsula, and was spread by sailors and traders. For 18 centuries people have clicked needles, and the art may be even older, for legend has it that the seamless garment worn by Christ was knitted, which is why it could not be cut or divided.

Knitting was not work for women alone, for all through the years men have knitted too. It was once a source of livelihood for men, and there was a six-year apprenticeship to learn the craft. To become a master knitter a man had to create the following in 13 weeks: a carpet, with leaves, flowers, birds and animals in natural colors; a beret; a woollen shirt; and a pair of hose with "Spanish Clocks."

All this knitting was done in wool. Then came silk work, so fine that some of the needles (called "wires") were no thicker than our sewing needles. A silk shirt in stocking stitch which was worn by Charles I at his execution can be seen in the London Museum.

Knitted lace also had a great sale, as it was so much cheaper than the imported (or smuggled) European laces. The patterns for this were often family secrets. In many nations the stitches flew. Sailors knitted, shepherds knitted, and a bride's ability to knit was considered part of her dowry.

Some districts became famed for special types of work, for example the Shetland Isles whose knitters can still race through 200 stitches a minute,

(Please turn to page 43)



For Holiday Wear

No. 1839—A softly draped cowl-neck blouse to team with bouffant skirt for party occasions or casual skirt for everyday wear. Four variations of neckline. Sizes 10, 12, 14, 16, 18, 20. Size 14 requires 1½ yards 36-inch material. Price 35 cents.

No. 1851—An evening skirt in either waltz or floor length. Make waist-nipping cummerbund or bustle-bow for high fashion look. Waist sizes 24, 25, 26, 28, 30. Size 26 requires 4 yards for waltz-length, 5½ yards for floor-length (36-inch material). Price 35 cents.

No. 1828—A picture-pretty nightie for the sleepy timers' parade. From same pattern "butcher boy" and new shortie pyjamas can be made. Sizes 7, 8, 10, 12, 14. Size 10 requires 3½ yards 36-inch material. Price 35 cents.

No. S-23—Cold weather favorites for the younger set. One-piece snowsuit has zipper or button front, elasticized waist, ribbed or button-fastening cuffs. Sizes 1, 2, 4, 6, 8. Size 4 requires 1¾ yards 54-inch material. Price 35 cents.

No. 1353—The slim look in a smart wrap-around style. Contrasting scarf, side buttoning and double pleat give special emphasis to dress. Bodice has rolled collar and ¾-length sleeves. Sizes 12, 14, 16, 18, 20, 40, 42, 44. Size 18 requires 4¼ yards 36-inch material. Price 50 cents.

No. 1776—For the Christmas social whirl this dress gets our vote. Dress features empire waist, scoop neckline at front extending to V-back and small cap sleeves. Skirt front has "bell" look emphasized by elongated darts; back shows panel of inverted plaits. Sizes 11, 12, 13, 14, 15, 16, 18. Size 14 requires 4¾ yards 36-inch material. Price 50 cents.

No. 4130—Ready for the sandman in snug, cardigan-front pyjamas. Can be made with short or long sleeves, with or without feet. One of the most useful and comfortable styles for a toddler. Sizes 1, 2, 3, 4, 5, 6. Size 3 requires 2½ yards 36-inch material. Price 35 cents.

No. 1863—One of the loveliest dresses for any little girl. Smocked bodice extends to full gathered skirt. Smocking transfer pattern is included with step-by-step instructions for beginner. Sizes 1, 2, 3, 4, 5, 6. Size 3 requires 2 yards 36-inch material. Price 35 cents.

Patterns are printed with instructions in English, French and German. State size and number for each pattern. Note price, to be included with order. Write name and address clearly. Order Simplicity Patterns from The Country Guide Pattern Service, Winnipeg 2, Man., or direct from your local dealer.



The Country Boy and Girl



IT'S Christmas time! How we love to wrap up surprise gifts for family and friends, then bring a pretty evergreen tree into the house and decorate it with tinsel and lights! Most exciting of all is the visit of jolly old Santa who represents the spirit of happy giving.

In our churches we celebrate the birthday of Jesus Christ. We sing again the favorite Christmas carols which have come to us from many lands. We give gifts to those in need so that throughout the land everyone may have a merry Christmas. Let us try to carry some of this happiness into the coming year so that in our homes and communities the spirit of Christmas may be always present.

A game called "Sleuthing Santa" could be good holiday fun for a family gathering or at a school party. Divide your group into two "families." Each "family" then secretly decides on some imaginary gift to present to the other family

(choose unusual gifts such as a diamond tiara, a mouse trap or a castle). Then each family sends one member over to the other family for questioning. No questions are allowed except those which can be answered by "yes," "no" or "I don't know." The "family" first to guess the gift claims the person for their "family," then both groups choose a new gift and the game goes on.

Ann Sankey

Christmas Shopping

by Mary Grannan

DAVY reached for the pink pig on his bookshelf. He laughed. "Mr. Pig," he said, "you're heavy. I've been feeding pennies to you, and do you know how many you've eaten?"

The pink pig didn't answer. "I'll tell you how many you've eaten," said the little boy. "One hundred and sixty-three, and that's a great many. I hope you won't mind, but I'm going to shake you now until your stomach is empty, because I'm going Christmas shopping."

The poor pig must have been dizzy before Davy got the last penny from him, but he didn't complain. He had done his work well, and was happy.

Davy now had a problem. What to buy with his pennies! He wanted to get his mother something especially nice, because she was the nicest mother in all the world . . . or so Davy thought. He went to the kitchen. "Mum," he said, "I'm going shopping. What would you like for Christmas?"

His mother, with a merry twinkle in her eye, screwed up her face as if she were in deep thought, and said, laughingly,

*"A crown of diamonds for my head,
A swansdown pillow for my bed,
A gown of silver from the moon,
A whistle, with a magic tune."*

Davy did not laugh. He took his mother seriously, and with his pockets bulging with pennies, left the house and started down the street. He knew where to get diamonds. He had gone with his mother to the jewelry shop when the stone in her ring had loosened.

A friendly salesman came forward when Davy went into the shop. "Can I help you, young man?" he said.

"Yes, sir," said Davy. "I'd like to get a diamond crown for my mother for Christmas. Do you have any diamond crowns?"

The salesman smiled, "We do have one," he said, "but it is rather expensive."

"I have 163 pennies," said Davy. "Will that be enough to buy it?"

The salesman shook his head. "I'm afraid not," he said. "It would take a million pennies to buy this tiara. Can't you think of something less costly, to buy for your mother?"

Davy sighed. He would have liked the diamond crown in the showcase for his mother. But he would try to get her second choice, a swansdown pillow.

Davy knew that there were swans in the park. He bought a bag of popcorn and went to the pond where the lovely white birds were swimming about. He tossed some corn on the surface of the water and two came toward him. "Please," he said, "would you give me some of your down to make a pillow for my mother?"

"Oh," said the swans, "we need our down to keep us warm. The days are cold, and the water is icy. We could not give our down to you. Is there not something else that you could give to your mother for Christmas?"

"She said she would like a gown of silver from the moon," he said, "but I can't go to the moon because I have no wings."

But the swans knew how Davy could go to the moon. They told him to pluck a feather from their tails, and that night, when the moon was low, to hold the feathers in his hands. "The moon is magic when it is low," said the swans. "These feathers will be your wings."

Davy plucked the feathers, and went home. If he didn't get the gown of silver that night, he still had time enough for his Christmas shopping in the morning. He went to bed early, and snuggled down under the covers, a feather in each hand, to wait until the moon was low. He was wakened suddenly by a silver moonbeam which cut across his bed like a silver ribbon. He sat up and stretched out his arms.

They were wings! Swanlike wings! He spread them, and flew out among the stars and up to the moon.

A lady in a gown of silver sat near a silver fountain in a silver garden. Davy went to her. "Hello, Lady Moon, my name's Davy, and I flew up here to get a gown of silver as a Christmas present for my mother. She said that she would like 'a crown of diamonds for her head, a swansdown pillow for her bed, a gown of silver from the moon, a whistle with a magic tune.' I didn't have enough money for the diamonds, and swans needed their down for the cold winter, and so please may I get a gown of silver?"

"I have but one gown," said Lady Moon. "If you take it for your mother there will be no more moonlight on the world below. You wouldn't like that, would you, Davy?"

Davy shook his head. "No, I wouldn't, and neither would my mother. I can make a whistle, of course, from the branch of a willow

tree, but I can't put a magic tune in it."

Lady Moon smiled. "But I can. You make the whistle for your mother, and I promise you I shall give it a magic tune."

Davy flew home and to bed. The next morning he cut a branch from the willow, and with great care, he whittled and polished, until he had a shining whistle in his hands. He blew into it, and the whistle sang:

*"Merry Christmas, Merry Christmas,
Merry Christmas, Mother dear;
Davy made this magic whistle—
Merry Christmas, Glad New Year."*

Davy's mother heard the music and hurried into the room. "What's going on?" she said, "I thought I heard beautiful music?"

Davy hurriedly put the whistle behind his back. "Please don't ask any questions, Mum. I've secrets, because I've been Christmas shopping."

The empty pink pig on the bookshelf laughed.

Sketch Pad Out-of-Doors

No. 58 in series—by CLARENCE TILLENIUS



AS the years go by, most outdoor painters find that certain landscapes have a greater appeal for them than others—scenes they never tire of reproducing with pencil and brush.

The accompanying drawing—scrub oak prairie near Sandridge in the Interlake district—shows a part of the country that I have never tired of wandering in; sometimes hunting or sketching, but as often as not just wandering. To many it would probably seem a landscape both bleak and drab—and it is true enough that in mid-January with a north wind at 30 degrees below, one does not feel like sitting down to admire the landscape.

But it is wonderfully interesting country nevertheless. It is a favorite feeding ground for deer: in the sketch you will notice the clubbed ends of the oak branches where the deer have browsed year after year. Badger and skunk, ground squirrel and woodchuck have their dens among the hummocks

and by day and night the red-tailed hawk, the goshawk and great horned owl tirelessly patrol these uplands and leave few unwary or slow-witted four-foots to perpetuate their kind.

To draw such a scene, even in winter, is not always simple. My practice is to indicate first the line of the horizon and then the trunk of the most important tree or shrub. The measuring of one shape with another with the eye is here of particular importance, also the angle at which branches leave the trunk. By putting down the horizon line first, you can easily judge the distance between each tree that cuts the horizon and—important—the height of each tree or bush compared with the distance from the next.

You do not have to put in every bush, twig and grass blade—even if you could do it. Pick out the ones that seem most important in the scene and draw them.

The Knitter's Friend

Continued from page 40

and whose shawls are so fine that they can pass through a wedding ring. The Islanders too, built up their own type of colored knitting. It is said that the patterns with which they border their work were shown to them by shipwrecked sailors from the Spanish Armada.

Then came the decline. The Industrial Revolution brought machines which could produce more and cheaper work than the swiftest fingers. Gradually the great industry died. Fortunately for us it was not lost altogether. In the homes the needles still moved. No doubt it was as happy and creative an occupation for our great-grandmothers as it is for us.

It was thought important to keep the craft alive. In the parish church of Wymondham in the heart of England, there is a tablet in memory of a lady who in 1850 left a sum of money to pay the salary of "an efficient school mistress who will teach the village girls to read, sew and knit."

So we still buy wool and needles for our pleasure. Would you like to try a pattern from the Knitter's Friend? It is for an "Invalid's Supporter."

"With one and one-half pounds of coarse knitting cotton, knit in rows of 90 stitches until the whole is used, then sew a strong cord or tape to each end. This forms an excellent support for an invalid sitting up in bed, by tying one end to the bedpost at the foot, passing the knitting behind the invalid (drawing it smoothly from the waist upwards) and tying the other end to the other bed post."

"The Knitter's Friend" belonged to my great-grandmother. I wonder if she too really made the strange garments it describes? V

Help from Depths

Continued from page 14

driving team and buggy. Could this be Old Double-Cross coming to seize their farm machinery? The last time he had visited them was just before Paul had left; and of course he knew that Paul was working on the big ditch. On that occasion he had threatened that unless that old bill was paid, he would take steps. His ability to take so-called "steps" was well known, as it was common knowledge that he had very large mortgages on the farms of both the sheriff and the bailiff.

Following this team and buggy, she waited until it came over a slight rise outlined against the skyline. Then, she decided, yes, it was Walter himself. Next thing, would he come to their place first, or go on to Seymours, who owed him for the only threshing machine in the district. Her powerful glasses kept the team in sight until the forks of the road. Yes, he had decided to hit Seymours first, and land there in time for dinner. Seeing this, Margaret decided that he would not get to her place until some time in early afternoon.

So she started for home, worried by this new trouble. If Cross actually did take all the machinery, how would they get their hay off? How would they save their meagre crop of wheat and oats?

Slowly, with the passing miles, a plan which she had thought of many times in the summer crystalized in her mind. It was up to her to save those farm implements. They had already been more than paid for. She thought of the steer they had turned over on this note—their meat for one whole winter, which they had done without; of the money they had paid in interest; of all the money they had paid out to him and repaid. Yes, she must not have Paul come back to an empty farm, with nothing to work with. Old Double-Cross had already been paid many times over.

But for her plan she needed help from her close friend and chum, Marge Black.

ABOUT two o'clock that hot summer afternoon, as Mr. Walter Wilson Cross drove smartly up to the Paul Luastrai homestead, he was feeling pretty well pleased with himself. Pat Seymour, not wishing to lose the small threshing machine which he had bought, like Paul, second-handed from the wily agent, had found, also, like Paul, it needed plenty of repairs; and again, like Paul, that he had paid far too much. He, too, had paid large sums in overdue interest. With all this in mind, Pat had not wanted to lose his machine. For this reason, Cross was now richer by \$100 in cash, the promise of two steers in the fall, and 300 bushels of wheat—all, of course, written out and signed, to Mr. Cross's very good satisfaction. In very good humor, he drove into the yard, his splendid team of bays at a smart trot. The shiny red wheels of the new buggy brilliant in the sun.

Old and experienced collector as he was, he was amazed at the sight which presented itself to him in the Luastrai yard. Two horses standing saddled by the fence corner. He noted red-headed Margaret Luastrai, a fine figure of a woman, apparently in great agitation, near the well in the yard. Another young woman with an equally good figure, but a contrasting brunette whom he did not know, was also greatly excited. He knew Paul was away (making money, he hoped) on the big ditch. He had timed this visit for Paul's return home for late haying, or that at least he would have sent some money home.

So, tying up his team securely to a hayrack, and wondering what was troubling the women, he strolled slowly over to the newly dug well about which the young women were concentrating so anxiously. As he drew closer he saw the strange young woman make a hurried trip to the house, and also that Mrs. Luastrai evidently had been crying as her eyes were red-dened. The other lady, too, was apparently greatly agitated.

"What's wrong?" enquired the business-like Mr. Cross. "Any accident?"

"Yes," replied the agitated Margaret. "I was bending over this well taking up a small dish of butter I had down there to keep it cool, when my pocket book slipped out of my smock pocket, and now it's down there in the mud and we can't get it up. Paul is away and Marge's husband is away and what will we do? A little water will seep in and the \$150 will be spoiled? We are afraid to go down after it."

Just as he thought, the crafty collector ruminated. Paul had sent some

CROSS MEMBER FOR DRAW-BAR

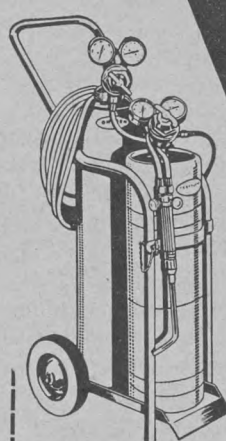
of a cultivator snapped through in the field and overlapped at the break, making welding impossible until it was

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At All Shoe Repairers

money home, and now this silly woman had lost it down this hole. Out of the bright sunlight, he could not see down the well. "How much water is in the bottom?" he enquired.

"Only two or three inches of seepage," replied Margaret. "Paul dug this well last fall and we thought at first we would dig about 30 feet down and get enough water for the house. Paul got lumber from Stillicombe for about 52 feet of cribbing. They kept on digging, he and Jim Black, till they got down to shale, about 60 feet. Then they gave it up, after they put the cribbing down about 50 feet—blue clay all the way. No water, and now my pocket book is down there."

"What does it look like down there?" enquired the agent.

"I'll show you," said Margaret. She rushed to the house, returning with a small mirror, that she used to reflect a beam of sunlight down in the murky bottom. Slowly moving the beam around she finally concentrated on an object resting on the bottom, sure enough a pocket book with its bright clasp reflected in the beam. The new cribbing appeared absolutely safe and secure. So Mr. Cross thought, if I go down there, I guess I can collect that money, and that will make a real good day for me. So let's see about this thing. "How did Paul get down there?" he asked.

"Well," said our heroine smartly, "the ladder is 18 feet long. He first let that down and tied this piece of inch rope safe on the end of it, and lowered the rope by unwinding the windlass."

"What about gas?" he asked.

"There never was any gas in this well," replied Margaret. "But we can easily test that." So, from the little home she brought a lantern, lit it, took some binder twine and lowered the lantern slowly down the hole. "If there is any gas the lantern will go out," she explained. Down went the lantern and up again, still burning brightly. "No gas," said Margaret.

"Can you two women handle that windlass and lower me down?" he asked.

"Sure. We have lowered our men folks down and up again lots of times," they declared.

"Well, here goes," he said. Over into the hole went the ladder, fastened securely by Margaret with a real bowline knot, which would always be secure, but never tighten.

Over the edge went Mr. Cross very slowly and carefully, looking fearfully down to the far distant destination. He had a very distinct and definite hunch that he was doing the wrong thing. "What if this cribbing should cave in? What if the women could not haul him up again? What if the rope should break? What if the bottom, uncribbed, should close in on him? Well, he couldn't turn back now. These women would laugh at him and tell the story of his fear all over the whole prairie country; and he was proud of his reputation of meeting any emergency and always coming out on top.

Slowly, as he descended to the lower rungs of the ladder, he looked up at the very small spot of light overhead—how far away that safe well-head top was. Then the windlass started creaking and very slowly the rope ladder and everything started on

the long trip to the still far distant bottom. Strangely enough, the two young women appeared now to be very cool and collected. Doing the job with absolute calmness and efficiency. About half way down a small hunk of blue clay, which had been sticking to the side of the cribbing, became dislodged and fell down, bouncing from side to side of the cribbing, making a noise like crackling thunder in the confined space. Double-Cross thought that the cribbing had gone. However, nothing happened. This was down near the bottom of the cribbing. How far distant the top looked. How slender the inch rope looked. He made one fervent wish, "If I ever get out of this one, no more wells for me."

"You must be near the bottom now. Your rope is pretty near run off," yelled Marge.

He looked down. Yes, there was the muddy bottom, just below the lower rung. Slowly and cautiously he stepped off the swaying ladder. He sunk an inch or two in the watery muck. He let go of the ladder and looked around the bottom for the precious wallet. Yes, there it was over to the side. He stooped down to reach for it. Something jerked his side and swiftly up went the ladder. Probably taking it up out of my way, he thought, as his cold, wet fingers grasped the muddy pocket book. Safely secured, he must glance inside to see if the money was inside. He twisted the clasp and opened it up. Yes, there was some green looking money in there, but strangely old and faded looking. He opened up the bills. He gasped at what he held in his hand, bills of the Southern Confederacy, dated 1862. About as useless as last year's calendars. He looked up. The ladder was now at the top of the well, and over the top in the distant circle of sunlight, appeared two very handsome, but very determined looking farm women. "What the heck are you women doing? Let that ladder down at once. This money is worthless. Hurry up there."

The reply was, "We are going to leave you down there for a while to cool off," and the two ladies disappeared.

Could he climb out? Impossible. The muddy walls offered no foot or hand hold. The cribbing was too high to reach, and even if he caught it, he could never climb up the square cribbing. What did those two crazy women plan to do with him? Little chunks of muddy clay were constantly dripping down with a watery splash. The cribbing and clay walls seemed to be closing in, always closing. His watch was in his vest pocket in the buggy, so he had no way of telling time. Then Margaret appeared at the top with some information. "We have unhitched your team and watered and fed them in the barn. They are too fine a team to stand out hungry in this heat. We have also looked at the last paper in your brief case, and have seen what a dirty deal you gave Pat Seymour."

"Let me up," he yelled, "I'm freezing." But the red-haired lady disappeared over the distant edge. Cold, wet feet, muddy shirt, clammy wet, Walter started swearing, cursing and threatening, to no avail. Again the well top darkened and a parcel descended on a very slender binder twine.

"Here's your coat. You may need it," he heard this time as the dark locks of

Marge appeared momentarily over the edge.

"Let me up. I'll have you women in jail for life."

NO answer from the hidden women. Time went on; how long he did not know. Every minute the cribbing seemed to be creaking and closing. What were those women up to. Fool, fool, that he was to get into this mess. More water dripping, dripping, mud falling and splashing. Would they leave him here to starve to death? How long would he live in this sloppy eternity. He couldn't sit down in this mucky mess, or lean against the muddy walls.

Then two female heads appeared at the well top and gazed down on him.

Margaret then revealed to him the verdict. "Mr. Cross," she declared, each word slowly rolling down through the depths of the excavation. "Mr. Cross," she said slowly and deliberately, "Stop your swearing and listen. This is your chance, your only chance, so listen. We know how you tricked Paul into buying and paying twice too much for those worn-out farm implements. You know about the steer we paid you. You know about the money we scrimped for and did without clothes to pay you 12 per cent interest. We know how you did the same thing to Pat Seymour and his threshing machine which the whole district needs so badly this fall. We know about the \$100 you got out of him, that he was going to use for repairs, so he could thresh for all of us this fall.

"Now here are our terms if you want us to help you up to the top. Remember, we never asked you to go down there after my grandmother's confederate bills. You volunteered to go down yourself, after I said there was \$150. We know you are anxious to get back to Stillicombe. Here is our suggestion. Take it or leave it. We will send down two copies for you to sign, one for me and one for Marge, of completely paid up bills of sale for Paul's mower, rake and binder. You are also to send up three complete copies of your signed paid up bills of sale for Pat Seymour's threshing machine.

"Marge and I promise that, if you do this and leave us alone, we will never mention a word of this episode to a living soul, as long as you keep your word. We have two cameras here: we have taken pictures with each of them, of you driving up and tying your team. We have a shot of you disappearing in the well. We intend to take the last shots of you climbing out of the well. You needn't think you are going to get your gun out of the buggy. You will find that gun two miles away hanging on the gate post, with the chambers empty.

"These bills of sale and pictures are going to be put away in two separate places. So that is our story. We will be back after a while to get your answer."

Double-Cross knew when he was licked. He had to be back in Stillicombe to meet his western managers. If this story of this mess, of how he had been so terribly beaten by two homesteaders' wives got out, he would be done. He couldn't show his face anywhere. This redhead was even quite capable of getting lots of publicity in the newspapers. So, when the

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two girls came back a half hour later, it was a very crestfallen Cross who called up, "Send those papers down quick, I am nearly perished. I will sign them, on your written promise to not mention this to anyone."

Quickly the two girls extracted from his briefcase the necessary forms and sent them down on a length of binder twine. "Now here's something else, Mr. Cross," Marge called. "Don't get any funny notions that you are going to catch us up here, when you get up. We have our two saddle horses. We will have the cameras and the papers safe. We will have the windlass arms fastened to a crowbar. We will have a rope tied to the bar and if you show your head before we tell you to, I shall pull the rope and down you go again."

With all the mechanical details in order, the girls got their horses. The precious bills of sale were carefully secured, not forgetting the salvaged confederate bills, with cameras on the ready, down slowly to the end of the rope went the ladder. Looking down, they saw the Agent. With a desperate hold on the lower end of the ladder, round and round went the windlass until the top end of the ladder neared the top. Then, securing the arm with a bar, Margaret held the rope at a safe distance from the well-head. "All right, Mr. Cross," she sang out. The cameras clicked as up from the depths came the angry, crestfallen and muck-splashed collector.

But—hush! They were observed. As the cameras clicked, from the depths of the nearby willow-dressed slough, proudly marched Bessie the cow, followed by a spotted young calf on very tottering and wobbly legs. Surprise and relief, coupled with the tension she had been feeling since Walter Cross first approached, nearly made Margaret drop the rope she was holding. She didn't dare look at Marge for fear they would both burst into silly giggling. At long last, after what seemed an eternity, Cross drove out of the yard. Only then did the two dare to really look at each other. Both started to laugh and then the reaction sent them into uncontrolled giggling.

"Oh, Marge, I feel as weak as a kitten. What a climax to have old Bessie come strolling up from the marsh just then."

"Yes, wasn't it? She couldn't have timed it better. Perhaps we could call it 'more help from the depths.'"

Turkey Farm Geared for Sales



Al Roder practises "vertical" turkey farming: He not only produces, but, on the same land, he processes, packs, stores, and largely markets his product.

IT'S one thing to grow 20,000 turkeys a year, and something else to sell them. Al Roder is doing both.

This young farmer from Arkona, in Lambton county, one of Ontario's big producing areas, started with 250 birds 11 years ago. He has been expanding his production and sales programs ever since.

Quality is his keynote, whether in raising the birds on his farm or killing, eviscerating, and packaging them in his Arkona plant. Since he has control of both these operations, he doesn't shudder at the competition.

"I can do a better job of packing than they can," he explains, "and I can raise my own top-notch birds—Broad Breasted Bronze, and a few Broad Breasted Whites."

The small killing and processing plant that Al owns and manages in the cross-roads town of Arkona, is a hive of activity from August 1 until Christmas, with 10 or 12 girls working full-time. In the off-season, the killing area is used as a battery area for starting another year's flock.

The newest feature is the liquid freezer which speeds freezing, facilitating faster turnover of birds. Freshly killed birds, wrapped in brand-named cryovac sacks, are placed on the pulley-suspended platform over a tank of frigid -30° F. liquid (it has a propylene-glycol base). The birds are lowered into it for one-and-a-half hours. By that time, body heat is gone and the birds are partly frozen.

They are then pulled out, laid on racks and rolled into the 17-foot square refrigeration room, which is held at -10° F. Twenty-four hours later, they are boxed in attractive cardboard cartons, singly or in groups, and either stored there (2,000-bird capacity), or in a co-operative freezer plant at Forest, of which he is a member, or sold direct to chain stores, or occasionally sold to wholesalers.

In a further attempt to gain premium prices for his very best birds, Al and 11 other Ontario turkey growers have pooled 50,000 of them, established the trade name, "Certified

Ontario Turkey Growers," and hired a skilled manager.

One of the big packing companies has handled these special birds this year, and hopes are high among growers, that they are going to get some of the premium that housewives seem willing to pay these days for attractively packed, high-quality food.

New Control For Brucellosis

ONTARIO is moving fast to clean up brucellosis (contagious abortion) in its cattle herds.

Newest step, taken last month, was the application of its newest brucellosis Act by the government, under which 245 townships, that have had mandatory vaccination by-laws under the old Act, will be designated as "supervised areas," eligible to have vaccination costs borne by the province. Under the plan, each cattle owner in a supervised area will be able to get his female calves vaccinated at no direct cost to himself, by the veterinarian of his own choosing, provided the veterinarian has entered into an agreement with the province.

Any other township can enter the program, if two-thirds of the cattle owners in it sign a petition favoring the adoption of a compulsory calf-hood vaccination program. This has already been done in the first 245 townships.

The program is aimed at the eventual elimination of brucellosis, the reduction of loss from the disease at home, and the preservation of export markets.

Agricultural Minister Goodfellow noted that, last year, Canada exported 41,691 head of purebred and grade cattle for breeding purposes, almost 85 per cent of which went from Ontario. Most of them went to the U.S. market, he said, "which can only be retained if we have animals that are free from disease, particularly brucellosis."



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Christmas In New Zealand

by W. E. BRADLEY

"I'M Dreaming of a White Christmas" is a song that is meaningful to comparatively few people in New Zealand. Only those with memories of far-away homelands remember Christmas snows. For, in this island country, Santa Claus pays his annual visit in mid-summer. And, the beautiful native name, "Land of the Long White Cloud," has no reference to snowclouds.

To Canadians New Zealand is a land of contrasts, and Christmas provides the greatest contrast of all.

Daydream for a moment and visualize the effect if Santa Claus, visiting Canada, suddenly found that instead of snow, sleighbells and freezing temperatures, he had arrived in the middle of the picnic season!

Yet, this is the natural condition in a country where Christmas finds the people in the middle of their summer holidays. Some are at the beaches; others staying at lakeside cottages; many are touring the country. School children are enjoying a six-week vacation. Temperatures range from 70° up — much like our finest July and August weather. Poor St. Nick has little use for his sleigh and fur-trimmed trappings in these surroundings, although the children will tell you he needed them in the countries beyond the surrounding hills.

Climate, of course, creates this contrast. But, despite the climatic conditions, the actual observance of Christmas in New Zealand is much the same as it is here.

CHRISTMAS cards are exchanged. To a marked degree they are much the same as ours, depicting Santa Claus even as we see him. Holly decorates the homes for the festive season. The fir tree takes its place as the center of attraction, with parcels and gifts tucked carefully around its base. Decorations for the tree follow the same pattern as ours, although tree lights are comparatively new to New Zealanders. Church services are the same. The usual family visits are made, presents exchanged, and the amenities religiously observed as in Canada.

There the similarity ends. Even the mistletoe is different. Our white-berried mistletoe is missing. What they call mistletoe is a flower barely one-eighth inch in diameter, but two inches in length, which grows in strikingly bright red clusters. Like our own Christmas plant it is a parasite.

The festive table is different, too. Instead of roast turkey and its trimmings, they have lamb with mint sauce and green peas, and potatoes, of course. The Christmas pudding is often missing. In its place is the highly popular black-currant tart.

Outdoors, instead of a shroud of snow, the countryside is a vast backdrop of color. A thousand species of flowering plants blend their infinite variety of colors with the vari-shaded greens of the native shrubs. They hug

For them it is mid-summer, but the spirit of the season is the same

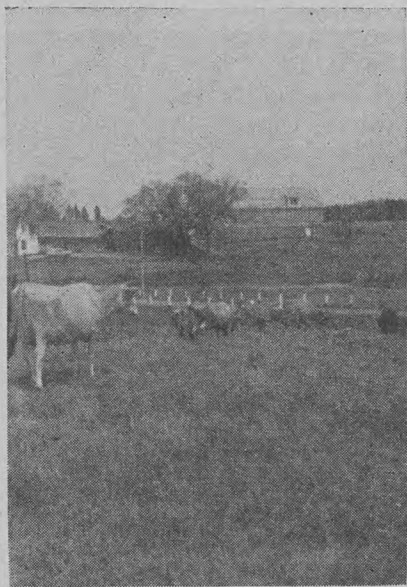
the hillsides in massed profusion. The bright red of the mistletoe and pokutakawa plants form a beautiful contrast to the brilliant yellow of the kowhai flowers. Beyond the guardian hills and, startling in their contrast, are tremendous fissures and appalling desolation.

BUT, this is New Zealand, a land of opposites. Certainly this is true to us for, when we play hockey, they play football and rugby; when we snowshoe, they go boating; while we are skiing, they are surf-riding and swimming.

Through the Yuletide the holiday crowds have their picnics, beach parties and boating on the lakes and rivers. (The crowds at swimming places equal our July 1 gatherings.) Boxing Day is a day of special events. Horse racing and rowing regattas vie with football in the popular fancy.

Nevertheless, we in Canada, with our sub-zero weather and "White Christmasses" do not observe the Birthday of Christ any more fervently than do the people of our sister dominion "down under." After all, Christmas is a matter of concept. Contrasting climates only affect the details of its observance. V

Grain the Greatest Cost



This 30-cow herd (60 head) is fed on 140 acres plus added western grain.

GEORGE McLEOD can easily grow the grass and hay for his 60 head of Jerseys (30 cows), on his rolling clay farm at Penobsquis, New Brunswick. His 140 cultivated acres, in a six-year rotation—two years each of oats, hay and pasture—, seems made for dairy cattle. By putting back all his manure, and adding 300-400 pounds of fertilizer per acre on grain, and more on the pasture, he gets big yields. But he still doesn't get enough grain to winter the cattle. Grain feed is his biggest expense, for like most Maritime stockmen, he must buy Western-grown grain to meet his needs. V

How Farmers Made History

Continued from page 11

to blow over this still-unfulfilled, half-empty country, the Dominion of Canada.

Then, everything changed. The pace of national life was suddenly and enormously quickened. The immigrants who had so largely failed us before, began to arrive. The settlement of the West went on at headlong speed. More transcontinental railways were needed to move the vastly increased East-West traffic; and the factories of eastern and central Canada were humming with a strangely new activity.

The new-found prosperity had started in the West with the settlement of the Prairies, which had brought them into large-scale production. The tide of grain now pouring out of the western wheatlands was like the Golden River in John Ruskin's fairy story, which enriched and fructified all the barren, lifeless country through which it passed. Only, Canada's Golden River was not a fairy story. It was wonderful reality. The wheat boom, continued by the war of 1914-18, and the post-war prosperity, brought good fortune and good times to Canada for nearly the first three decades of this century.

The West had made a nation. This was the substance of things hoped for; and yet, eastern and central Canada still seemed incapable of understanding that we had arrived at a new point of departure. Up to that time, the dominant conception of the national interest had been an eastern one; but now, certainly, their old program had become outdated and inadequate. A new western voice, a deep, powerful bass voice had joined the national chorus; and it soon began singing a strain which brought the whole of eastern Canada to quick attention.

THE East heard it first, in real volume, late in the year 1910. December 15, 1910, was a significant and almost ominous day in Canadian history. On that day, over 800 determined farmers from Ontario and the western provinces descended upon the Canadian capital. They met in Ottawa's biggest auditorium and adopted the original Farmers' Platform. The next day, they appeared in the House of Commons; and then with blunt, straightforward eloquence, presented their case to Sir Wilfrid Laurier and his cabinet. It was the biggest convention of petitioners that had ever assembled in the capital. When the "siege" was lifted, everybody relaxed with the feeling that all would be normal and peaceful once more.

They were wrong — quite wrong. The grain growers, through the Canadian Council of Agriculture, kept on insisting that the idea of the national interest must meet the new circumstances of the twentieth century. Late in 1918, at the close of the war, a new, enlarged and more comprehensive version of the Farmers' Platform was presented to the public, soon acquiring the challenging title of the "New National Policy." Now, Sir John Macdonald's old national policy was

confronted by the national policy of the agrarian West.

How was it to be implemented? After a brief uncertainty, the farmers began a career of direct and vigorous political action; and for the next ten years the challenge of the Farmer-Progressive parties was the great disturbing, energizing factor in Canadian politics. It was the defection of the western Liberals in 1917, which had helped so largely to break up the old Liberal Party of Sir Robert Borden's union government. The old parties, the old policies, the old partisanship, and the old corruption seemed to be tottering to their fall. A new political system, — morally better, more democratic, more truly national — was coming into being.

How swiftly the first farmers' victories of the early first-war years followed each other! In 1919, in old sedate Ontario, the United Farmers of Ontario gained their first unexpected success. In 1921, in Alberta, the United Farmers of Alberta won political power; and in the same year, 65 Progressives captured seats in the House of Commons at Ottawa.

And yet, the agrarian movement in the West was something bigger than any political party, new or old. It was a fresh way of looking at things, a new method of action in the economic and social fields, as well as in politics. It meant a reliance on thoroughly democratic machinery, an instinct for experiment, a habit of self-help and a genuine co-operation. Some of its most effective political influence has been exerted through the old parties, as well as through new parties, other than those which bear its name. The movement, in fact, established a new tradition, and much of our political history since 1918 shows the plain marks of its strength. The Liberal party that Mr. King led was a very different organization from that which broke apart under Sir Wilfrid Laurier; and both the newer third parties, C.C.F. and Social Credit, have obviously derived some of their views and a good deal of their support from the older Farmer-Progressive movement. The old two-party system received a blow from which it has never recovered.

BUT this was not the sole, nor indeed the main, aim of the farmers' movement. The Dominion must now begin to play the part of a nation, a nation in which the three prairie provinces have become a vitally important part. This surely was the fundamental aim and all the farmers' parties and organizations, whatever their immediate objective, were means toward this ultimate end.

In a very large measure this ultimate end has been achieved. Just as Great Britain and the outside world has been obliged to recognize Canada's national maturity, so Canada herself has been forced to realize the power and the needs of her own West. The farmer leaders drove home the truth that a true national policy must be for the whole nation, for agriculture as well as for industry; and that the powers and resources of the state must be employed so as to distribute burdens and equalize opportunities across the nation, and through all its classes and groups.

The recognition of the importance of the West, begun during the first

30 years of the century, was completed during the 1930's, the decade of depression and calamity. Wheat had brought national prosperity and national unity to the Dominion. The special tragedy of the West, within the general crisis of the depression created by endless drought, crop failures, and the fall of wheat to the lowest price in recorded history, forced the people of Canada to realize that the ruin of the prairie economy could only mean that the whole structure of the nation had broken down. The Dominion came to the financial rescue of the poorest provinces. It also appointed a special commission—the Royal Commission on Dominion-Provincial relations—which began the business of redistributing the burdens and benefits of Confederation. Adversity, as well as prosperity, had made us a united nation.

We had also come to be accepted as a nation by the external world. Farmer-Progressive leaders have been strong supporters of dominion autonomy, and firm believers in the idea of a collective international order. What they desired was achieved well within the 50 years of your Company's existence. The end of colonialism on the prairies, the rise of a strong continental dominion, enabled the statesmen of the twentieth century to do what Sir John A. Macdonald would not have been able to do. It was no accident that Sir Robert Borden was able to press successfully for a larger share in the direction of the war of 1914-18, and in the settlement of the peace. There is no mystery in that fact that Mackenzie King was able to secure, so quickly, the legal completion of dominion status, in the Statute of Westminster, in 1931.

We decided to make and implement our own foreign policy. Beginning in 1926 we set up foreign missions in all the countries with whom we had any important business. We undertook to provide our own defence; and in the last world war, our armed services made a contribution second only to that of the great powers themselves.

All these triumphs and sacrifices lie within the half century of your Company's existence. We have come through this, and this, and all this. Canada has achieved real nationhood only very recently, and much of her growth will come in the future. Though the western economy is obviously changing rapidly, the old industry, agriculture, which your Company serves, still maintains its pre-eminence. Wheat still wears its golden crown. It ought to be a main task of Canada, and Canadian governments, to ensure by every possible means that the free citizens of wheat's kingdom will continue in prosperity and happiness. ✓

Hogs Topped A High District

LAST year the Vegreville district again led Alberta in the quality of hogs shipped, with a total of 31.8 per cent of Grade A porkers, as compared with the provincial average of only 19 per cent. One reason for this is the annual Swine Quality Competition conducted by the Vegreville Co-operative Livestock Shipping Association, where each shipper has to

market a minimum of 25 hogs to qualify.

Top man among the 80 entrants in the 1955 competition was John Drysdale of Vegreville, who shipped 66.6 per cent Grade A hogs—more than twice the district average, and over



John Drysdale says it doesn't cost you any more to raise good market hogs.

three times the provincial figure. Drysdale went into hogs as a sideline; his main production being grain and milk. He now has a turnover of about 60 hogs a year. An Air Force veteran, John settled on his 240-acre farm in 1946, under the Veterans' Land Act plan.

"One reason for the district leading in hog quality is because we have a lot of purebred breeders here," he said. "You can't very well raise good animals, unless you base your herd on top quality stock. After that, it's up to the hog raiser to follow with good feed and management. It doesn't cost any more to raise a good pig than a poor one—which is something all of us should keep in mind!" ✓

Self-Help Provides Better Seed

WHEN the Saskatchewan Seed Grain Survey booklet came out it told a sorry tale. In spite of the large volume of registered and certified seed produced in the province, most of the grain seeded was home grown, and the bulk of this was heavily impregnated with weed seeds. In fact, 43 per cent of the wheat, 75 per cent of the oats, and 67 per cent of the barley fell into the rejected seed category, considered unfit for seed purposes. The survey also showed that a good deal of this seed had been cleaned at country elevators.

Farm leaders in District No. 17, which takes in three million acres and 3,155 farm operations in the Kindersley area, noted these facts—and they noted something else too. This poor record for seed grain, didn't apply to one sector in their district, the Rural Municipality of Snipe Lake, where a municipal seed cleaning plant was in operation.

The answer was obvious—they needed more seed cleaning plants. Through their Agricultural Board, they got busy and did something about it. Last year a plant was established at Kindersley, and others are

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now either building, or projected. In Royal Canadian, Newcombe and Mantario municipalities, a similar scheme to that at Kindersley is providing a plant at Eatonia.

First, a survey is made to see if an area has enough grain acreage to warrant a seed-cleaning plant. The next step is to decide what type of operation it will be: a co-operative, a municipal plant, or a privately owned one.

The Kindersley Agricultural Committee accepted the offer of an experienced operator to build and run

their plant, and arranged a loan of \$10,000 (total plant cost is about \$25,000) through the local credit union to help finance the plan. The money was raised by canvassing farmers and other interested people, and was deposited with the credit union. This will be refunded to the contributors when the debt is paid.

"With seed cleaning plants spotted at intervals throughout our district, we'll make a better showing in the next seed drill survey," promised Agricultural Representative Harold Tangjerd. V

The Story of A Christmas Carol

This is how "Silent Night," one of the best loved Christmas carols in the world, came to be written

by HENRIETTA K. BUTLER

THE only humans to have heard the angels sing were those fortunate shepherds who were tending their sheep in Bethlehem, on that Silent, Holy Night 2,000 years ago.

Today, "Silent Night, Holy Night," probably ranks second among all nativity carols of the world. "Stille Nacht," it was first called, as the original words were in German, although it was composed in Austria near Christmas Eve, in the year 1818.

This sweet old song will resound around the world in many countries and in many different ways. Bells will ring it out. Choirs will sing it. Orchestras will play it; and one way or another, you will hear it dozens and dozens of times over, this Christmas season.

During two world wars, when fighting ceased for a few hours on Christmas Day, soldiers of friend and foe alike, sang it with feeling and wonderment, and not without a great deal of emotion and homesickness.

WHO was responsible for this very beautiful poem and sweet music?

In the village of Arnsdorf, near Salzburg, Austria, lived Franz Grüber, a schoolmaster and organist. In the adjoining village of Obendorf, lived his friend, Josef Mohr, a priest. These two men, together, composed this ever popular carol; Grüber, the tune, and Mohr, the poem.

Franz Grüber, born in 1787, the son of a weaver, loved music from his childhood, and learned to play the violin and organ. He was organist and schoolmaster for 21 years. He died in 1863.

Josef Mohr, the priest and poet, was born in Salzburg in 1792, the son of a musketeer. He was a choir boy at St. Peter's church and became a priest in 1815, in Obendorf. In 1848, he died in a small village in the mountains.

It is good to know that two such men, living simple lives, but each loving things of beauty of a sacred nature, could make such a contribution to the world as this precious carol. Originally, Grüber picked out the tune on his guitar, and even today, in his native land, the choir may still sing "Silent Night" to the accompaniment of a guitar. Grüber composed

other sacred music, but "Silent Night" was his master stroke. It belongs to the whole world.

In a tiny chapel near Arnsdorf are two beautiful, stained-glass windows, placed there in memory of the two friends. The likenesses of both men are in the glass. The one holds a guitar, and under is written, among other inscriptions, "Arnsdorf." The other holds a book, as he gazes up to heaven. Under is written, "Obendorf," "Stille Nacht," and other words.

"Stille Nacht" made them famous, and now belongs to all of us, wherever Christmas is celebrated.

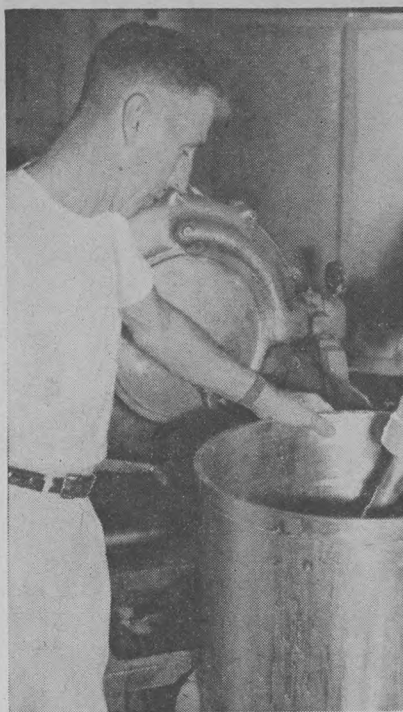
*"Blest indeed was that happy morn,
Full of heavenly joy."* V

Canned Apple Cider

AFTER 27 years, the Fruit and Vegetable Processing Laboratory, located at the Experimental Farm, Summerland, B.C., can look back on a long and impressive list of achievements which have added millions of dollars to the economy of the fruit-growing Okanagan Valley. Many of the processes developed here have been adopted by various fruit and vegetable processing industries in Canada and other countries. Among these have been the clarification and canning of apple juice, the development of single-line canneries, dehydrated apple and vegetable improvements, new fruit pie-fillings, the cherry brining and glacé fruits industries, and a coffee substitute—actually a war need.

The latest project to be completed at the Summerland Laboratory is the development of a canned apple cider. This is a ten-proof "hard" cider to be sold through the B.C. Liquor Control Board, and will be manufactured by the B.C. Fruit Processors Ltd. The pilot plant at the Experimental Farm has turned out an initial 1,000 cases to test consumer acceptance, before the industry embarks on full-scale production.

Main purpose behind development of the cider was to find a way to utilize "C" grade and cull apples. The leading variety in the Okanagan today is the Delicious, closely followed by the McIntosh Red. Unfortunately, the



[Guide photo]
Another by-product of fruit growing in B.C. is apple cider in 10-oz. cans.

former produces a sickly sweet juice that can only be used in apple juice manufacture as a 15 per cent mixture with other juices. By using Delicious juice for cider, the industry hopes to be able to remove the bulk of "C" grade Delicious apples from the market.

The new product is a sweet cider (former efforts to produce a dry cider proved unsuccessful), and is being marketed in 12-ounce cans. It is brewed from frozen Delicious juice that has had apple concentrate added to increase the sugar content and flavor. The mixture is fermented with Tokay wine yeast, in stainless steel tanks for four days, at a temperature of 80° F. After this, it is rough-filtered, chilled to 29° F., fine-filtered or "polished," rechilled, and carbonated to 30 pounds pressure. It is then put into the cans, capped, pasteurized for about two minutes at 210° F., cooled, labelled, and cased.

Under the supervision of F. E. Atkinson, Officer in Charge of the laboratory, a research team started working on the cider project soon after the New Year. To date, there hasn't been time to test the process with other apple varieties, but if the product serves as an outlet for low-grade Delicious, one big headache of Okanagan growers will disappear. The Summerland Laboratory stands ready to co-operate with anyone in developing new products that promise to broaden the agricultural economy of Canada. In the course of a year, many weird and wonderful samples are sent in by people. V

Tractors in Cold Weather

Continued from page 13

a temperature of 90° F. below zero. If the gravity is down to 1.200, the freezing point climbs to 16° F. below zero (about 50 per cent charged). If the gravity should drop to 1.100 (about 20 per cent charged), the freezing point of the electrolyte goes up to 19° F. above zero, which is warm for our winter temperature. This makes it imperative to keep the battery well charged.

In most cases the operation of the tractor will be limited in winter, and the generator will have difficulty keeping the battery charged. If this is the case, some other means of charging must be utilized, either by having it charged at a garage, or by purchasing a small charger for home use. For the battery's sake a slow charge is preferred, but a fast charge is more convenient in most cases.

The liquid level should be watched. If water is put into any cells during freezing weather, the battery should be used or cycled for at least 15 minutes to mix the water and acid to prevent freezing at the top of the cells. It's also a good idea to draw liquid out of the cell and squirt it back in with the hydrometer to help mix. Keep the battery clean on top and neutralize any acid by brushing on a solution of soda and water over the top of the battery, the frame, posts and cable terminals. This will minimize corrosion as well as reduce electrical leakage across the top of the battery.

It is important to remove the ground strap and insulated cable to clean. They should then be replaced and tightened to provide good contact.

A battery at 0° F. has approximately 40 per cent of the current output that it has at 70° F., while the cranking motor, due to stiff oil in the engine, has twice the work to do to turn the engine over. This causes a reduced voltage for the ignition and indicates the necessity of having a fully charged battery and good, clean, tight connections.

The distributor should be checked carefully. The breaker points, if burned, should be replaced and set to the proper spacing recommended by the manufacturer. The condenser should be tested, and if weak, should also be replaced. It might be well to check the timing, if equipment is available.

Spark plugs will require attention before going into the winter. They are sometimes overlooked and can be a source of trouble, especially in winter operation. They should be removed, cleaned and tested. If they are weak they should be replaced. The heat range of the plugs should be checked as well; and if the tractor is to be used on light work the installation of hotter type plugs may be advisable to reduce possibilities of fouling. A slightly wider spark plug gap is recommended for winter for smoother operation. The gap should be reset after filing the center electrode flat on the end. With a clean sharp edge on the center electrode less voltage will be required to make it fire under heavy load.

While checking these parts, take a look at the wires on the charging circuit, as well as the ignition circuit for tightness of connections. If the insulation is cracked or broken, the wires should be replaced to reduce the electrical resistance.

Fuel System. The fuel system should be cleaned thoroughly before getting into zero weather. The fuel tank, sediment bowl, fuel lines and carburetor all need attention. The carburetor should be removed and the air pressure used to clean the screens and jets. If the jets are worn they should be replaced and properly set. The load jet and idle jet will both have to be opened slightly for winter opera-

tion. Gaskets should be replaced, if they are not providing a good seal. It may be wise to add a small amount of methyl alcohol, or patented material, to the fuel, to eliminate frozen fuel lines caused by moisture condensation in the fuel. Moisture condensation will also be reduced by keeping the fuel tank full in cold weather. This reduces the amount of air in the tank, which may be laden with moisture.

General. Points already mentioned, if followed, should enable a tractor to give dependable winter operation, providing, of course, that other working parts of the tractor are in good repair. The housing of a tractor in a heated garage, or shop, when not in use, will materially reduce wear and damage to engine parts. However, this cannot always be arranged. The installation of one of several types of block heaters available will be advantageous in getting the engine started. It will also keep it warm, thus reducing wear and moisture condensation in the cylinders and lubricating system. A 400-watt electrical block heater will operate on less than a cent per hour, and will pay for itself on reduction of repair costs alone, not considering wear and tear on the operator, if an engine will not start.

(Note: J. A. Peck is extension agricultural engineer with the Saskatchewan Department of Agriculture, Regina.—ed.)

New Products For Farm Markets

Continued from page 9

meet the demand, or to find new uses for it.

PRL is working on the fractionation, or breaking down processes, and has had some success in using acetone, which is relatively cheap and can be separated easily from the oil, while acting as a selective solvent. It compares well in efficiency with furfural or liquid propane. Acetone could lower capital and operating costs, and may yet prove the key to new markets for western farmers.

It would be a mistake to regard the Prairie Regional Laboratory as a small factory full of magic processes for turning base metals into gold, as the Philosopher's Stone was claimed to do. Useful as such an establishment would be, nature will not co-operate, and the only road is the hard one, where basic research alone can provide the tools with which applied research eventually discovers the penicillin, nuclear energy and Salk vaccine to change the course of men's lives.

The research department, under Dr. A. C. Neish, is responsible for work in microbiology and fermentation chemistry, bacteriology and mycology (the study of fungi), and is taking over the work requiring radioactive tracers. Another department studies the chemistry of plant products, under Dr. A. S. Perlin. The raw materials are the fats and oils, proteins, enzymes and carbohydrates, and other important components of prairie crops. Finally there is the engineering and industrial development department, which has produced the pilot plants for converting straw, gluten, starch, fats and oils into commercial forms.

DR. LEDINGHAM sees a big future for farm products in the antibiotic industry. This has revitalized the development of fermentation processes, and there is hope that more complex organic compounds may be produced in the foreseeable future. Experiments in the past, using large fermentors, have been slow and costly, but at PRL they have been able to develop small experimental units. From a five-litre stir jar, it is now possible to predict the results that a large plant would give.

One of their interesting by-products was the discovery that corn smut yielded an unknown product showing antibiotic activity against many bacteria and fungi. It was named ustilagic acid, and an unexpected industrial application was found for it as a cheaper substitute in the manufacture of the more costly musk perfumes.

Glycerine derived from vegetable oils by fermentation has aroused the interest of Britain and the U.S. for defence production. It is used in the manufacture of explosives and antifreeze, among other things, and PRL has applied for a patent on the process.

Fermentation led to another development, which has a future not unlike that of gluten. It is known that cereal proteins are deficient in some amino acids (protein ingredients), and have, therefore, a lower nutritive value than animal protein has. As there is frequently an excess of cereals in western Canada, it seems to PRL that production of amino acids could improve these cereals and increase their use in animal feeding. One approach, through fermentation, may convert nitrogen into protein of value to livestock, and the fixation of nitrogen from the air might even be developed. Lysine, the most important amino acid lacking in wheat, has been produced to a limited extent by fermenting fungi.

THE use of rapeseed meal in animal feeds has disclosed traces of poison. The mycology department is using enzymes to release the toxic elements, the isothiocyanate content of the seed, to provide a better method of assessing how much of this there is in the seed of different rape varieties. It is hoped to relate the results to feeding trials made by the Animal Husbandry Department of the University of Saskatchewan. Enzymes are being used also to improve the recovery of starch in the starch-gluten separation process.

One of the newer developments at the Prairie Regional Laboratory is the use of radioactive isotopes in the tracer laboratory for building up organic compounds, including sugars, sugar acids, alcohols and aromatic materials. A new greenhouse is planned to take over some of the tracer work, in which many of the products of crop plants can be studied. Eventually the work will be broadened to include native plants too, and those producing drugs and other special compounds.

The number of projects seems endless, and all, in one way or another, are directed to the better use of what farmers produce, and better ways for farmers to produce them.

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VOL. LXXV WINNIPEG, DECEMBER, 1956 No. 12

The Canada Council

IT is now 16 years since the Massey Commission recommended the establishment of what it called The Canada Council for the encouragement of Arts, Letters, Humanities, and Social Sciences. Early in November, the Prime Minister announced that such a Council would be set up, to be operated by a board of 15 governors, who would be furnished with the sum of \$100 million. Of this amount, \$50 million would be earmarked for payment of one-half of the cost of approved university buildings over the next ten years, and the remaining \$50 million would be an endowment for investment independently of government control, and to be used at the discretion of The Canada Council.

This is a wise move that has been too long delayed. As a country of relatively small population, Canada does not have enough millionaires and multi-millionaires to produce wealthy foundations, such as have been established in numbers in the United States by such families as the Fords, Rockefellers, Guggenheims, and Kelloggs. Nevertheless, the need in Canada for cultural emphasis, and the encouragement more specifically of music, drama, ballet, and those studies and sciences which in the course of time greatly enrich the nation, is always urgent in a democracy. These, as well as religion, concern spiritual qualities, though in a different category.

It is natural that most of our daily effort and thought should be concerned with material things and agencies, such as food, clothing, housing, prices, money, markets, and so on. But man does not live by bread alone. Civilization is more than these material wants and the agencies with which to satisfy them. Under the circumstances, therefore, it is both proper and wise for the government to appropriate a reasonable sum of money for the encouragement of the finer things in life, and more particularly those agencies which are dedicated to the encouragement of what we may well call "quality" in our civilization. ✓

Marginal Farms

THE Prime Minister is reported as having said in the course of a recent Toronto address: "I am convinced that some of the land in eastern Canada that hard-working Canadians are trying to use as farms, should go back to forest and water conservation uses, and those attempting to live on them resettled in more rewarding surroundings."

Mr. St. Laurent apparently had in mind that such marginal farm families should be assisted to move out of agriculture into other industry. If so, his remarks would appear to be the first evidence of any official nature in Canada, to the effect that governments should provide financial assistance for the removal of excess farmers out of agriculture, and into more satisfying situations.

Interest is added to the subject by the fact that about the time the Prime Minister was speaking in Toronto, the first J. J. Morrison Memorial Lecture was given at the Ontario Agricultural College, by Professor J. K. Galbraith of Harvard University, who is a native of Ontario, and a graduate of the O.A.C. His subject was rural poverty. He is reported as having said that the problem is a social one and "like city slums, the rural slums will yield only to a matter of social compulsion. Given the nature of rural poverty, and its persistent and cumulative character, our choice is to tolerate them, or to eliminate them by organized methods."

With similar intent, the Saskatchewan Royal Commission on Agriculture and Rural Life, in its

seventh report, entitled: Movement of Farm People, recommended: "(a) the encouragement of desirable movement out of agriculture . . . (b) the rapid development of urban industrial opportunities for full and part-time employment . . . (c) financial assistance to displaced low-income farm families to facilitate better adaptation to economic and social opportunities . . . (d) provision of information to rural families on available urban employment opportunities."

It is interesting to see that from these three widely separated directions, the responsibility of governments for action in an area where action has long been needed has been acknowledged and recommended. So far there has been no action, though it has been surmised that once more the desirability of extending the P.F.R.A. area over much more of Canada, if not all of it, may again come up for discussion in Parliament. Whatever method, if any, will be chosen by the Federal Government, the need is urgent, and responsibility rests no less on the provinces than on Ottawa to actively work toward a solution. ✓

Christmas

IN just a few short days, Christmas will be here. For weeks now, preparations for the greatest feast day of the Christian year have been under way. Customs vary in different countries, and time has introduced innovations as people have moved from one country to another, but the spirit of Christmas has been constant throughout hundreds of years. In many, many thousands of communities throughout the Western world, choirs have been practicing the joyous Christmas music. The much-loved Christmas carols will be sung in millions of homes, and innumerable secular organizations will sing them wherever they meet.

As always on this occasion, no thinking person can commit himself, or herself, fully to the enjoyment of Christmas, without remembering that for many people it is not a joyful season. Despite all the wonderful advances of civilization, the progress of science, the growth of democracy, and the many lessons that history has for our learning, there is much poverty, and sickness, and wrong-doing in the world.

Perhaps, then, no matter what our individual circumstances may be, or how we may personally choose, or be able to celebrate the Christmas season, we can recapture something of the old-time Christmas spirit, if we call to mind some of the things which we, as Canadian citizens, possess in common, that will make the Christmas season more meaningful. We can remember that Canada has one of the highest standards of living in the world; and that we have achieved this standing as a democracy of people who prize freedom and liberty within the law which we ourselves make. We have good neighbors and associates in Britain and the United States. It is worth noting, too, that in all the world there are no nations other than Christian nations, which, at the same time, combine a sound working democracy of free and equal people, with a progressive economy, a relatively high level of education, and a friendly attitude toward all other peoples who are content to meet them in a spirit of friendliness.

And so it is that we can once again send out the age-old greeting from all of us associated with The Country Guide, to all of our subscribers and friends everywhere,

A MERRY CHRISTMAS

and

A HAPPY NEW YEAR

Great Oaks from Little Acorns

WE hope that as many of our readers as can find time to do so will read the article on page 11 of this issue. In it, Professor D. G. Creighton, Chairman of the Department of History at the University of Toronto, has looked back over 50 years, and found much that farmers in all parts of Canada should occasionally remind themselves of. Using as a point of departure for his remarks the fiftieth anniversary of United Grain Growers Ltd., he went back 50 years to the exciting start of that organization in 1906. From that point he traced the development of farm organization in Canada—sometimes called the Farmers' Movement—; and as a historian, was able to credit to that movement a significance which could well be lost sight of by the layman.

From the broad canvas which Professor Creighton has painted, it seems to us that there is one lesson to be taken to heart by farm organizations and their leaders today. That is with the respect to the need for sound and thoughtful farm leaders, whose minds are at work on the necessity for strong, progressive farm organizations to speak for Canadian agriculture. Agriculture is weak in this respect, and the only way it can be made strong enough to meet the problems of 1957, is for farmers everywhere to make up their minds that organization is a necessity in this period of our history, and that they themselves must help to bring about the type of organization which is strong and representative. ✓

University Training

MOST Canadian Agricultural Colleges and University Faculties of Agriculture are now, or have been, giving intensive study to revisions of their courses of study for degree courses in agriculture. Just as agriculture itself has changed during recent years, so it is inevitable that the requirements of graduates must also change. Universities must meet the needs of the large areas they serve as the centers of culture and of higher education and scientific research, and recognize the inevitability of change.

During the last two decades, science has emerged with increasing significance and energy, as a necessary aid to agriculture. This has also been true of other professions, and the present concern as to the number of professionally trained people who may be turned out from our universities in the years to come, is of more than current interest. It offers a problem of deep concern to the future of agricultural and industrial Canada. University Boards are also much concerned as to their ability to provide the necessary housing, equipment and teaching staff for the years ahead.

It is, therefore, fitting that the professional training courses to be taught in the future at our universities and agricultural colleges should be carefully scrutinized and, if necessary, redesigned. This is all the more necessary, because agricultural graduates in steadily increasing numbers are finding their way into a wide variety of work. At one time they were principally employed in provincial and federal departments of agriculture, and in the universities themselves. Today, many more are in demand from industries, organizations and other businesses having a more or less direct relationship with agriculture.

Because almost every science has some impact on agriculture, so graduates from our agricultural colleges must be broadly trained. It is, therefore, of considerable interest to learn that new courses are under consideration at the Universities of Alberta and Manitoba, designed to meet this growing need. It is intended that they shall give more attention to the broader and economic aspects of agriculture, and provide a type of training more suitable for those who do not intend to enter any of the purely science fields.

It may be that graduates who intend returning to the farm will find such courses a profitable and more adaptable type of training. At any rate, these are signs pointing in the right direction; and no doubt other institutions which are now endeavoring to forecast the future needs of students are giving serious attention to similar problems. ✓